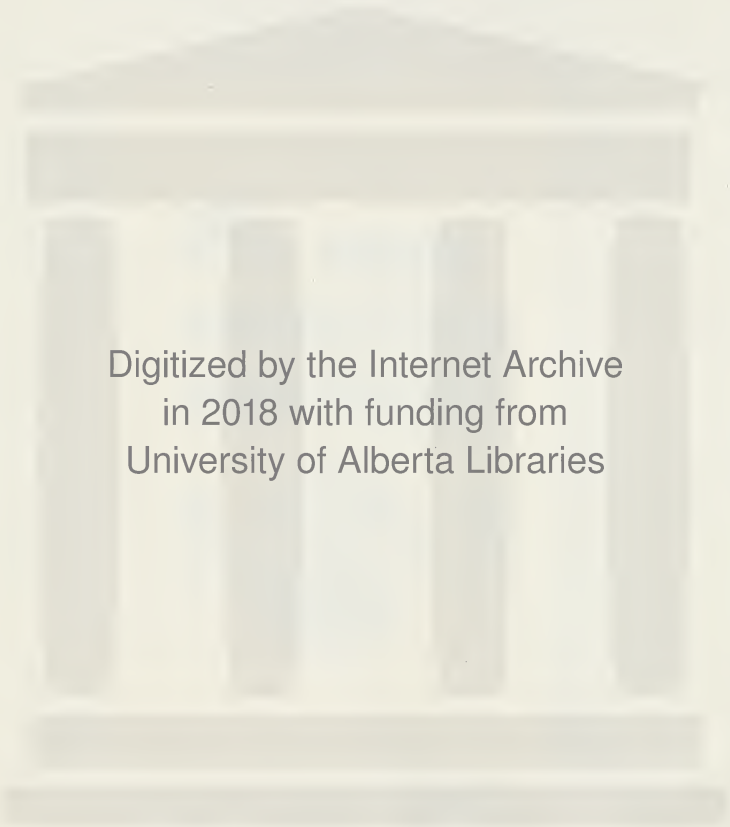
University of Alberta Library
0 1620 3080990 7

For Reference

NOT TO BE TAKEN FROM THIS ROOM

Ex libris
universitatis
albertaensis



Digitized by the Internet Archive
in 2018 with funding from
University of Alberta Libraries

https://archive.org/details/causecureofspeec00kerr

THE UNIVERSITY OF ALBERTA

THE CAUSE AND CURE OF SPEECH DEFECTS

A DISSERTATION

SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR

THE DEGREE OF MASTER OF ARTS

COLLEGE OF EDUCATION

BY

EVELYN CHRISTINE KERR

EDMONTON, ALBERTA

MAY, 1941

TABLE OF CONTENTS

Chapter		Page
	INTRODUCTION	iv
I.	THE PHYSIOLOGY OF THE SPEECH ORGANS	1
	Resonating cavities of the speech mechanism The physiological basis of speech The breathing apparatus - the speech mechanism The production of vowels and consonants	
II.	CLASSIFICATION AND DIAGNOSIS OF SPEECH DEFECTS	13
	Definition of speech defect Classification of speech disorders Diagnosing speech difficulties Test chart - Word test - Sentence test	
III.	STUTTERING: MAJOR SPEECH DEFECT	24
	Definition of stuttering Sex factors Age of onset of stuttering The etiology of stuttering A composite point of view Treatment of stuttering Practical work	
IV.	LISPING: MAJOR SPEECH DEFECT	77
	Nature and causes of lisping Types of lisping Correction of lisping Practical work Conclusion	
V.	MINOR SPEECH DEFECTS	107
	i. Baby Talk Definition and causes of baby talk Nature of baby talk Correction Practical work	

Chapter		Page
V.	MINOR SPEECH DEFECTS	
	ii. Foreign Accent. Causes and prevalence of foreign accent Three correction problems Correction of foreign accent Practical work	148
	MINOR SPEECH DEFECTS	
	iii. Muffled or Indistinct Speech Causes Exercises for relieving tension Drill for careless speakers Exercises for careless speakers	182
VI.	INDIVIDUAL VOICE PROBLEMS	186
	i. Aphonia	
	ii. Nasality	
	iii. High Pitch	
VII.	SUMMARY AND CONCLUSIONS	197
	BIBLIOGRAPHY	200

INTRODUCTION

INTRODUCTION

Parents who have children afflicted with speech disorders should not entertain the belief that the children will outgrow their speech defects by themselves as they mature. The case of the stutterer should be studied from all angles in order that remedial measures specifically adopted to his needs may be instituted. Remedies for each case vary in relation to the individual demands. Those whose speech defects are caused by organic disorders should be given a thorough medical examination.

The practical work outlined in this thesis was carried on, for the most part, in Edmonton schools. Pupils afflicted with defective speech were visited for one hour periods three times a week during the school term. The writer attempted to make a careful study of each individual, the physical condition, the mental ability, the emotional attitudes, and the environmental conditions, in order to understand the causal factors of the case. The next endeavor was to ascertain the cause of the difficulty, whether physical or psychological, and then to suggest or attempt a remedy. The various drills and exercises used in the

corrective procedure are described with each specific case.

The writer wishes to thank the principals of the schools in which the work was undertaken, and also the class teachers who cooperated to make the work pleasant.

It is hoped that this paper may be found useful to parents of children suffering from speech disorders and to others interested in the welfare of those under their charge.

CHAPTER I

THE PHYSIOLOGY OF THE SPEECH ORGANS

CHAPTER I

PHYSIOLOGY OF THE SPEECH ORGANS

Before attempting a discussion of speech correction let us examine the structure of the human speech mechanism and discover how it functions. Sound is generally thought of as the sensation perceived through the ear. In terms of physics it is a form of wave motion, set up by a vibrating body and transmitted through a medium, usually air. The production of air waves requires some motive force to start the vibrator. Very often some resounding body (a resonator) is required to reinforce the waves formed by the vibrator and make them effectively audible as sound.

Practically all musical instruments have these three elements - the motor, the vibrator and the resonator. The human musical instrument has still another - the articulator (the tongue, teeth and lips) by which the voice is shaped into the patterns of articulate speech, that is, converted into vowel and consonant sounds, which combined into words are used to convey our thoughts audibly to others.

Since one of the purposes of this thesis is to try to understand the nature of the cause of speech disorders, it may be well for us to begin with a consideration of its physical and physiological bases.

Resonating Cavities of the Speech Mechanism.- The cavities that seem to be the chief agents of resonance in the speech mechanism are those of the chest or thorax, the larnyx, and the head. The nature and extent of the reinforcement furnished by the thoracic and laryngeal cavities appears to be so little understood that most literature on the topic is limited to a discussion of the supralaryngeal system.

This system consists mainly of the passages of the throat, the mouth and the nose. Each of these resonators may undergo many alterations both in capacity and in the size of its openings, so that the whole system is capable of very great possibilities for reinforcing tone. All three passages may act together as one complex resonator, or either the mouth or the nose may separately unite with the throat, the other being shut off by the action of the soft palate. Like the rest of the speech mechanism, these cavities are only secondarily concerned with the production of voice, their primary functions having to do with the maintenance of life - breathing and the mastication and swallowing of food.

The Physiological Basis of Speech.

Breathing.- Since breathing is a primary function of the speech mechanism and since the outgoing breath is the basis of speech, an examination of the speech process is often begun with a description of breathing. Respiratory air currents initiate tones and noises in the human speech mechanism on the same general principles that air blasts set up by an organ pump initiate organ tones.

Respiration consists of two distinct physiological processes: (1) inspiration - the entrance of an air current into the body, and (2) expiration - the exit of an air current from the body. During inspiration the chest expands and a current of air enters the body through either the nasal cavity or the cavity of the mouth, proceeding thence backwards and downwards through the throat, larnyx and trachea to the bronchi. The inspired air current is divided by the bronchi into two separate streams and is then further divided by the ramifying branches of the bronchial tubes until it is finally diffused into the innumerable air cells of the lungs. During expiration the chest contracts and a current of air proceeds from the air cells of the lungs back along the respiratory tract to the outer atmosphere.

The sole purpose of the respiratory mechanism - as far as speech production is concerned - is to produce an expiratory blast of air from the lungs. Inspiration must be regarded as a function of importance to speech production only in that it serves to store the lung reservoirs with air that may be subsequently expired. The expired air current is utilized for the production of speech because it is especially adapted in a number of ways for the formation of a rapid succession of sounds. The expired air current is the fundamental and dynamic basis of speech - the energic origin of not only the sounds of our own language, but the sounds of all languages.

The Breathing Apparatus.- A very brief description of the organs of respiration gives a more clear understanding of the relation of breathing to speech production.

(1) The Lungs.- The lungs, the focus of the most important part of the respiratory act, are two spongy cone-shaped structures which nearly fill the cavity of the chest, the base of each resting on the diaphragm and the rounded apex reaching about an inch above the first rib. The lungs are separated from each other by a median chamber, with thin-walled partitions, which contains the aesophagus, the trachea or windpipe, the

heart, and certain large blood vessels.

Within the lungs the bronchial tubes branching from the trachea divide and subdivide into smaller tubes and these in turn ramify into numerous fine branches which lead ultimately into little pouches called air sacs. These air sacs have very thin walls in which are embedded a network of tiny blood vessels or capillaries, and it is here that the work of the lungs, the interchange of gases, occurs. The air that is taken into the expanded air sacs during inspiration loses oxygen and acquires carbon dioxide, and it is then expelled from the sacs during expiration. The bronchial tubes and air sacs with their accompanying nerves and blood vessels, held together by elastic connective tissue, constitute the substance of the lungs. The lungs, being passive through elastic organs, have often been compared to rubber bags which can expand and contract only when acted upon by forces from without.

(2) The Thorax.- The chest or thorax is the upper part of the trunk of the body. The framework consists of bones, cartilages, muscles and tendons and encloses the upper of the two great ventral cavities. In this cavity are located the trachea, the lungs, the aesophagus, the heart and the large arteries and veins.

The framework consists of the twelve ribs on either side and the sternum or breast bone, to which the ribs are attached in front. The diaphragm serves as the dome-shaped floor of the thorax. As a result of their peculiar shape, attachments and musculature, the ribs are capable of being moved upward and outward, thus increasing the diameter of the chest from front to back and from side to side.

The Speech Mechanism.- Speech is a function to which we are so accustomed that we give little thought as to how it comes to us, how it develops with the growing child, and what physical and mental actions are concerned in it. Only when we come to some disturbance of speech and try to realize that it is wrong, and still more when we try to put it right, do we find out what an extremely complex thing speech development is.

1. The Larnyx.- The larnyx or voice box, which acts as the vibrator in producing voice, is situated just below the base of the tongue. It is the enlarged upper end of the trachea, the tube leading from the mouth to the lungs. In shape the larnyx is broad and triangular at the top where it opens into the trachea proper, and flattened at the back.

2. The Vocal Cords.- There are, extending into the cavity of the larnyx on each side, near the upper opening, two pairs of horizontal ridges consisting of elastic connective tissue covered with mucous membrane. The upper pair of these ridges are the false vocal cords, and the lower the true ones. The false vocal cords act in conjunction with the epiglottis in preventing food from entering the lungs. In the act of swallowing, their muscles contract powerfully, thus helping to close the larnyx. The true vocal cords are the principal agents in the production of voice. They are attached in front to the inner angle of the thyroid cartilage and behind to the arytenoids. When tone is desired, the vocal cords are approximated, and air is sent through the narrowed slit of the glottis with sufficient force to set the delicate edges of the elastic vocal cords into vibration, thus producing voice.

3. The Pharnyx.- The pharnyx is a vertical passage lying behind the mouth and extending from the base of the skull above to the larnyx and aesophagus below. It is cone-shaped, wide above and narrow below. The back and side walls consist of muscular and fibrous tissue; in front the pharnyx opens into three spaces which lie one above the other, the larnyx, the

mouth, and the nasal cavity. In the production of voice, the pharnyx serves the double purpose of providing a free passage for the current of air and acting as a resonator to reinforce the tone generated in the larnyx.

4. The Mouth.- Like the pharnyx, the mouth is a resonator which is capable of many changes, both in capacity and in size of openings. It is nearly oval and consists of two cavities, the back cavity (the mouth proper) and a front cavity having for its outer wall the lips and cheeks, and for the inner, the teeth and gums. The lips, which are of considerable use in eating, are of very particular importance in the production of voice. When at rest the lips press gently against each other, closing the front orifice of the mouth. When in a state of muscular activity they perform an endless number of voluntary movements - separating, pressing more closely together, widening, pursing, thrusting forward, drawing back tightly against the teeth, tensing and relaxing.

5. The Tongue.- The tongue is an organ of the utmost importance in swallowing, in breathing, in controlling the shape of the resonator and in the articulation of sounds. Nearly all of the floor of the mouth is occupied by the tongue - an elongated mass of muscular tissue capable of endless variations in pos-

ition and shape. The muscles of the tongue render it surprisingly mobile and hence able to participate in a great number of articulatory contacts.

6. The Palates.- The roof of the mouth consists of two parts, the hard palate in front and the soft palate at the back. The hard palate is a bony structure covered with mucous membrane; it extends in front and at the sides to the upper gum or teeth ridge. Continuous with the hard palate is the soft palate or velum, a movable fold of muscle fibres with a pendulous tip called the uvula.

7. The Nose.- The nasal cavity is a long narrow passage between the bones of the face, extending from the upper part of the pharnyx, to the edges of the nostrils. The roof of the mouth serves as the floor of the nose. The nose is furnished with small, weak muscles, those above serving to dilate the nostrils, those below, to depress and contract them. In forced breathing the former assist in enlarging the air passage. The nostrils are the only parts of the nasal cavity that can change their size.

I hope that the above survey of the anatomical structure and primary functions of the speech mechanism has prepared us for a better understanding of the causes and possible cure of speech defects. In order

to appreciate the many difficulties confronting a teacher of remedial speech it seems necessary to gain an understanding of the normal producers of sound.

The Production of Vowels and Consonants.

Voice sound is produced by a column of air passing from the lungs and coming in contact with the various parts of the vocal organs. Articulation is the proper adjustment of the vocal organs to the production of speech.

In the formation of consonants the sounds which pass through the mouth are more or less obstructed through the activity of the lips, tongue and palate. If the column of air generates a vibration in the vocal cords of the larynx, the sounds produced are known as voice sounds (y,b,v,w,d,j,l,r,g,z). If the column of air does not cause a vibration of the vocal cords of the larynx, the sounds produced are known as breath or non-vocal sounds (h,p,f,wh,t,k,s,sh,ch). Sometimes the nasal passage is open when the sounds are made. The sounds so produced are called nasals. There are three nasal sounds: m,n, and ng.

While forming consonants the child should give attention to the position of the tongue, that is, whether it touches the roof, the palate, the upper or lower

teeth or the gums. He should also note the air current, whether it causes vibration of the vocal cords, making a voiced sound; whether it does not cause vibration, making a breath sound; or whether the nasal passage is open when the sounds are made, resulting in a nasal sound. The lips may be either closed, open, rounded, slightly drawn back, protruded or pouted.

In the formation of vowels, the voice is modified by different shapes of the mouth. A vowel (a,e,i,o,u) is a simple vocal sound. The lips, tongue, teeth, palate, and throat enter into the shaping of the different vowel sounds. A vowel is always a voice sound. When producing vowels one should give attention to the position of the tongue, that is, whether the tongue is high, mid or low in the mouth; whether the tongue is held tense or relaxed; and the part of the tongue which is raised, whether it is the front, the middle, the point or the back. Attention should also be directed to the position of the lips, whether they are wide, slightly open, or whether they are rounded, protruded or pouted.

Sounds are often classified according to the organs of speech which are used in their production: The terms used in the classification are:

1. Labials are the sounds made chiefly by the use of the lips (p,b,m,w).

2. Labiodentals are those made chiefly by the use of the lips and teeth (f,v)

3. Linguadentals are those made chiefly by the use of the tongue and teeth (th (soft), th (hard)).

4. Anterior linguadentals are those made chiefly by the use of the front part of the tongue (tip), and the palate (n,t,d,l,g (soft), s, sh,r).

5. Posterior linguadentals are those made chiefly by the use of the rear part of the tongue and the palate (g,k,c (hard), ng).

The tongue, lips, jaw, teeth, and palate are the parts of the vocal tract used in articulation. Defective enunciation is caused by the lack of control of the articulation organs. These organs are just as capable of development and control as are the other muscles of our body. The purpose of various tongue, palate, and lip exercises found elsewhere in this thesis is to give full power and control of these parts so that the vowel and consonant sounds are pronounced correctly.

CHAPTER II

CLASSIFICATION AND DIAGNOSIS OF SPEECH DEFECTS.

CHAPTER II.

CLASSIFICATION AND DIAGNOSIS OF SPEECH DEFECTS

Definition of Speech Defects.

A speech defect is any acoustic variation from an accepted speech standard so extreme as to be conspicuous, confusing or unpleasant. Such a variation may involve defective tone quality, defective breath grouping, defective stress placement, omission of sound units from portions in which they properly occur, insertion of sound units into positions in which they do not properly occur.

I. Classification of Speech Disorders.

A. Nervous Speech Disorders.-

1. Stuttering.- Rapid repetition of the first sound in words. Example, t-t-t-to.

Inability to speak at times, often no outward sign of inner struggle.

Audible or visible spasmodic action of the speech organs.

2. Hesitation.- Excessive self-consciousness and lack of poise, with speech confusion, resulting in refusal to recite.

3. Cluttering.- Rapid, choppy, very indistinct speech, almost unintelligible.

B. Organic Speech Disorders.-

1. Defects in Speech Organs.

a. Nose - adenoids, or other nasal obstructions resulting in the loss of resonance. Example "bood" for "moon".

b. Teeth - overshot uppers or undershot lowers, causing misplaced consonants.

c. Palate - sluggish, resulting in nasal "twang". Cleft, extremely nasal tone with defective consonants.

d. Throat - extremely enlarged tonsils causing "thick" voice. Defective vocal cords resulting in chronic hoarseness.

C. Habit Speech Disorders.-

1. Voice Defects.- (not organic)

a. Monotonous.

b. Nasal.

c. Lacking resonance.

d. Throaty.

e. High-pitched.

f. Harsh.

g. Aphonia (loss of voice).

2. Enunciation.- oral inactivities.

a. Sluggish mouth action.

b. Tense jaw.

3. Foreign Accent.- Foreign pronunciation, foreign inflection and word stress.

4. Articulation Defects.-

a. Lisping on the consonants s, z, sh, zh, ch, j, observed as protrusion of the tongue, causing substitution of the "th" sound. Example, "thing" for "sing".

b. Other substitutions of consonants or infantile speech.

Nervous speech disorders - stuttering, hesitation and cluttering - are not caused by an organic disability but by psychological factors. The speech specialist should seek causes in the environment of the home and the school. The stutterer has nothing wrong with any of the organs or functions which he uses in the production of speech. He is able to vocalize and articulate. The trouble is that he cannot balance, that is, he cannot harmonize and coordinate these functions. His problem is one of emotional maladjustment involving the total personality.

Organic speech disorders are caused by physical defects in the speech organs (enlarged adenoids, overshot upper or undershot lower teeth, defective palate),

No progress can be made in the treating of an organic speech disorder until the patient has been examined by the school physician and treated. Speech correction is relatively easy, after the defect has been remedied, because the child suffering from an organic disability does not usually manifest nervousness common to the stutterer. The most common organic cause of speech defects is enlarged adenoids. Fewer children would contract adenoids if they were taught while small to clear their noses well and breathe through them regularly. It has been said that regular humming will cure adenoids if they are just beginning to be troublesome. The vibration involved helps to keep the membranes in a state of health which resists germs and growths. When adenoids have taken firm hold an operation is necessary; this gives the child a chance to mend his ways. If he is not taught afterwards how to breathe, recurrence is fairly certain.

Habit speech disorders - voice defects, foreign accent, articulation defects - have their roots in early conditioning in home and school. These disorders are not usually accompanied by nervousness. They necessitate a complete retraining. The seven kinds of

voice defects (not organic) listed in Section C above may be modified greatly by the exercises in breath control and articulation given in a later chapter. The existence of foreign accent in our Canadian speech of today is a pressing problem. The establishment of a correct knowledge of the phonetics of our language and the proper lip formation of the various sounds is beneficial for its elimination. Many children, either foreign born or of foreign parentage, develop a speech conflict because they are trying to balance normal English speech practiced at school with the foreign language spoken in the home.

II. Diagnosing Speech Difficulties.

When the speech teacher examines a child with a speech defect, all the facts that have any bearing upon the physical or mental development available from medical or other sources should be considered. For example, speech development is often retarded by severe illness in childhood. A history of such illness may throw some light into the child's present condition. A correct diagnosis of the sympton is important in order that a suitable corrective procedure may be followed.

An early step in the diagnosis of a speech defect

is the obtaining of a full history of the case. A careful study of the individual is made in order to understand the causal factors of the defect. The following general outline# records significant facts.

(1) Name.

(2) Nationality.

(3) Mental and moral status in school and at home shown by:

(a) Intelligence tests.
(b) School work.
(c) Character and personality.

(4) General physical condition: strong, anemic, active, lazy and so on.

(5) Physical defects throughout speech organs: nose, throat, mouth, lips, teeth, palate, tongue and lungs.

(6) Nature of particular speech organ defect; its peculiarities.

(7) Other physical defects.

(8) Illnesses, past or chronic.

(9) Home environment.

(a) Condition of home; standard of living.

(b) Care of the child; food, clothing, sleep-

A modification of the outline given by Greene, J.S. "The Cause and Cure of Speech Defects", p. 41.

ing conditions, etc.

(c) Associations; Speech defects of other members of the family.

(d) Sympathy and cooperation of the family. (Does the child meet with patience and consideration at home? Has medical aid been procured when necessary?)

After the complete history has been obtained, the child, if suffering from an organic disability, should be referred to the school physician by the speech teacher before any corrective work is undertaken. The following Test Chart, a modification of the one outlined by Mrs. Gifford#, and the Word and Sentence Tests given below, are useful for preliminary work with these children afflicted with all speech defects exclusive of the Nervous Speech Disorders (stuttering, hesitation and cluttering). If the child mispronounces a vowel or consonant when repeating the words or sentences after the teacher has classified the disorder from which the child is suffering, she should then concentrate on the sounds pronounced incorrectly on these tests. Specific exercises for specific defects are detailed later.

Test Chart:- (see pages 11 & 12 for a definition of these terms).

Labials	May I buy a piece of melon?
p, b, m, w.	Mary poured the water in the basin.

Gifford, Mabel, F. - "Tentative Handbook for Teachers of Corrective Speech p.20.

Labiodentals	Four and one are five.
f, v.	That is very fine.

Linguadentals	
th (soft)	Smell this rose.
th (hard)	I saw three bears in the zoo.

Anterior linguadentals	
n, t, d, l, g (soft),	
j, s, x, sh, r.	Tom did not see little Georgie jump.

Posterior linguadentals.	Kate gave me a ring.
g, k, c (hard), ng, x.	The wax candle burned quickly.

Word Test#.- The teacher, while giving the word test below should hold a piece of paper in front of her mouth so that the child cannot imitate the performance. The words should be said clearly and distinctly in order that they be plainly heard.

Consonants.-

hat	find	day	good	jaw
you	vest	no	see	quart
pie	when	lady	zone	X-ray
bat	we	ride	shop	thank
milk	take	key	chair	this

Greene - Cause and Cure of Speech Defects, p. 36-7.

Vowels.-

arm	ask	it	use	out
age	eel	ice	up	owe
at	egg	old	ooze	oil
all	ermine	odd	belong	oyster

Sentence Test.- In giving the Sentence Test, follow out the same procedure. Have the patient repeat the sentences after you. Write down any defects noticed.

Consonants.#-

h -- He has a high hat.

y -- Yes, you yelled yesterday.

p -- Polly, pick up that paint pot.

b -- See the big black bear.

m -- Mary's mamma made it.

f -- Frank caught five fish.

v -- The view of the valley is fine.

wh -- The wheel whirled and wheezed.

w -- Wee Willie won a wagon.

t -- Tom tells no tales.

d -- The day is dark and dreary.

n -- Ned is never neat.

l -- Look at little Lucy.

r -- He ran around the rock.

k -- Kate kept the kitchen clean.

Greene, J.S. Cause and Cure of Speech Defects, p. 37.

g -- Gus gave Peggy a gift.

ng -- It is a long strong string.

s -- See the sun set.

z -- The bees buzzed around the rose.

sh -- She used the sharp shears.

zh -- The azure sky was a pleasure to behold.

ch -- The Chinese champion.

j -- Jack and Jim joined the army.

qu -- The queen was quaint and queer.

x -- The sexton had boxes of wax candles.

th -- Get the thimble and thick thread.

th -- Feathers flew hither and thither.

Vowels.-

a -- The lark flew to the arch in the park.

It is too late to make a sale.

The cat is an animal.

The ball will fall on the shawl.

It is the last class.

e -- We peel a peach before we eat it.

Spend twenty cents for eggs.

She earned her ermine wrap.

i -- The five-dollar bill is in the till.

Ivan's idea was fine.

o -- The old post was in the open snowy road.

She did not stop to shop.

u -- The union did its duty as usual.

Ugly black mud was under us.

The purse and curtains were burned.

oo -- The moon will soon brighten the room.

The cook took his foot from the brook.

ou) -- Our cow is out in the field now.
ow)

oi) -- The oil in the ointment soiled the doily.
oy)

CHAPTER III

STUTTERING: MAJOR SPEECH DEFECT

CHAPTER III

STUTTERING: MAJOR SPEECH DEFECT

Definition of Stuttering

In English the terms stuttering and stammering have frequently been used synonymously. Some have attempted to use the term stammering to describe a peculiar form of stuttering called spastic aphonia, in which the individual exerts considerable effort to talk but emits no sound at all. This is also sometimes called "speech hesitation". Those who adopt this usage call stuttering that form of defect which is characterized by the repetition of initial syllables. Fletcher, in "The Problem of Stuttering", says that this is an erroneous clinical distinction, that the fundamental difficulty in each case is precisely the same, namely, an inability to succeed in articulate utterance of speech under certain conditions, and that the variations in the manifestations of this blocking are purely incidental and superficial, having nothing to do with the basic character of the disorder. At the present time, the tendency is to use both terms synonomously, although the term stuttering is perhaps the more widely used of the two.

Prevalence of Stuttering Among School Children.

From the statistical data published we find that there are ten million speech defectives in the United States, and one million stutterers. If we take the average of various findings, slightly more than one per cent of the children in public schools are found to be afflicted with stuttering.# To this number one would have to add the considerable number who drop out of school through inability to meet the requirements of the class room. Surveys indicate that there is a larger number of stutterers among school children than there are of blind and deaf children combined. Wallin found that the proportion of school children who stutter increases from the first to the eighth grade.

Sex Factors in the Causation of Stuttering.

Stuttering is more prevalent among boys than among girls. Estimates of these differences range from two to one, to ten to one.## The rate changes with age, so that the greater the age the greater the preponderance of male over female stutterers. Males, therefore, are more likely to acquire the defect and are much more likely to continue it, once it has been acquired.

Travis, Lee Edward - Speech Pathology, p. 97.
Fletcher, J.M. - The Problem of Stuttering, pp. 56-58.

Age of Onset of Stuttering.

The greatest frequency of stuttering is reported between the ages of two and four years. The most reliable surveys# reveal that about eighty-five per cent begin to stutter before the age of eight years. There are certain clearly marked stages in the normal development of every child which, being periods of mental or physical stress, may be in themselves sufficient to account for the onset of stuttering. These periods may also temporarily intensify a stammer that may have been already established.

The first stage is that of learning to talk, when undue attention to childish defects may set up that dread or anxiety which fixes the trouble. The second stage is during the latest period of speech development, that is, during the fourth or fifth year, which in elementary school is coincident with the beginning of school life. A highly-strung, intelligent child often becomes over-excited in his eagerness to express himself - his expression shows the strain of his efforts to articulate and he is handicapped by a limited vocabulary and of selection of words. The third stage, the period of second dentition, is the one in which

---

Travis, Lee Edward - Speech Pathology, p. 101, and
McAllister, A.H. - Clinical Studies in Speech Therapy, pps. 8-11.

lisping occurs. The loss of the front teeth forms an opening, and the tongue, not under sufficient control, often slips through this opening. The fourth period - puberty - can hardly be said to cause stuttering. By the time the child has attained the age of twelve years the trouble usually has been well established. Very few, however, having a speech defect, escape an intensification of the defect at this age. In a boy the change of voice is partly responsible for a considerable loss of confidence and an increase of self-consciousness during the period of adjustment.

Etiology of Stuttering.

The phenomenon of stuttering has engaged attention and interest from the earliest times. In Biblical times Moses, when commanded to go before Pharaoh, said, 'O Lord, I am not eloquent, neither heretofore nor since Thou hast spoken to Thy servant, but I am slow of speech and of a slow tongue.' (Exod.IV,10). In God's reply, as Moses records it, we see that defects of speech were regarded by the Jews as afflictions equal to deafness and blindness: "Who has made man's mouth? or who maketh the dumb, or deaf, or the seeing, or the blind? have not I the Lord?' (Exod. IV,11)

Both Greek and Latin languages contain numerous words relating to impediments of speech. There is no

evidence, however, that either the Greeks or the Romans achieved the formulation of any satisfactory classification of speech disorders. In Roman writings, stuttering and lisping were not differentiated from other speech peculiarities. The stutterer had his special name as had the squinter and the long-nosed person.

During medieval times no progress in the differentiation of speech difficulties was made. Not until the sixteenth century did the problem receive serious consideration.

Mercurialis (1584) stated that the cause of stuttering was to be found in the humidity of the brain, which disturbed the normal action of this 'central organ'. This conception, which makes the 'central organ' the seat of the affliction, marks a notable progress and may be considered the forerunner of most of the theories up to quite recent years.

The researches made by medical men in the eighteenth century - Hahn, Delius, Santorini, Morgagni - show a regression to earlier concepts. These men regarded stuttering as the result of malformations of the speech organs. In 1825 the "American Cure" for stutterers was discovered by Mrs. Leigh of New York. She attributed the cause of stuttering to a weakness of the tongue which

caused it to be kept at the bottom of the mouth instead of in the roof of the mouth.

Chegoin (1830) thought he had discovered the fundamental cause, in abnormal formations of the tongue. According to his theory defects of speech were due to tongue anomalies, either in the form of shortness or restriction of movement. The obvious cure was by surgical operation.

In the 1840's enthusiasm for the cure of defective speech by surgery spread rapidly over the entire continent of Europe. Nearly two hundred cases in France alone submitted to an operation in the course of a year. A sort of rivalry, even, sprang up among the surgeons for the honor of inventing new kinds of operative procedure. Almost every muscle of the tongue appears, in its turn, to have been cut, in the hope that the focus of the trouble might be located. The advocates of surgical treatment either pretended to have seen successful instances or expected to do so in the near future.

Merkel (1866) placed the primary cause of stuttering in the psychic sphere - the sphere of the will. He held that a debility in this sphere was responsible for a disturbance of the equilibrium be-

tween articulation and vocalization. Thome (1867) believed the cause of stuttering to be an abnormal working of the central nervous apparatus, induced by the influence of certain emotions, which lead to respiratory disturbances. Shrank (1877) believed with Merkel that the cause of stuttering lay in the will. He said that during the act of speaking, the will is hampered and flurried by disturbing influences, generally consisting of feelings of dread.

Many variations upon the above theories might be detailed, but to no practical purpose. The curious reader may be referred to Appelt - "Stammering and Its Permanent Cure", Chapter I.

Present day explanations of stuttering are numerous, diverse, and conflicting. One theory suggests that the cause lies in childhood mental trauma or in motive conflict, another stresses inferiority feelings, and a third points to faulty habit foundations. Some authorities hypothecate a nervous instability as the fundamental factor, others speak of emotional instability as basic in the disorder, and still others find an explanation in the anomolies of cerebral dominance. A few of the more widely accepted theories will be briefly summarized and their limitations indicated.

The Freudian school of psychology, or more generally the psychoanalytical school, finds the genesis of speech disorder in childhood experiences involving severe shock or severe conflict. Of the latter the Oedipus complex and the Electra complex are typical. An exaggerated attachment, sometimes of an incestuous or neurotic origin, of the child for the parent of the opposite sex and a consequent hostility toward the other parent, constitutes the bases of a conflict that is likely to be repressed. Some psychoanalysists emphasize rather the shock or trauma consequent upon a precocious experience (usually of a sexual nature) which is apt similarly to be repressed. In either case the repression may suffer conversion into any of a number of physical or psychical manifestations, one form of which is the speech defect, stuttering. According to the psychoanalytical theory relief is to be sought in psychoanalytical treatment, the purpose of which is to expose the conflict and to resolve its elements by appropriate techniques.

As a theory this is very attractive, and to those disposed to accept psychoanalytical theories in general, very plausible. Unfortunately the therapeutic measures indicated meet with a peculiar difficulty. The free association technique depends for its success upon

a free vocalization. This in the very nature of the case the stutterer lacks. Many words and phrases he avoids religiously, feeling unable to say them. At other times he seeks refuge in obstinate silence rather than expose himself to the humiliation of stuttering.# Thus the theory itself is difficult of confirmation.

Very closely akin to the above explanation is that advanced by Coriat, himself a psychoanalyst. He suggests that the stutter is normally the result of some infantile sexual fixation. When for example, a stuttering boy was being diagnosed by him, he found out what particular letters or sounds gave the patient most difficulty. If the patient had trouble with pronouncing K sounds, he assumed that this boy had previously had some kind of an emotional sex experience with a girl whose name was Kate or some name beginning with K, or else a similar experience with a girl of another name in a kitchen, or a camp. He contends that the patient had received a K trauma of some sort. Commenting upon this explanation Fletcher# writes: "One may succeed with this explanation in one or two instances in any single case, but how one could complete the life story of a boy who stutters on practically every letter is difficult to imagine."

(#) Fletcher,J.M. - The Problem of Stuttering,pps.134-5

Fletcher# states that stuttering is a psychological problem. He is the most vigorous exponent of the view that stuttering is an indication of maladjustment to the social environment. He says "...it (stuttering) should be diagnosed as a morbidity of social consciousness, a hypersensitivity of social attitude, a pathological social response. The morbid elements in this social response include, typically, fear, anxiety, the feeling of inferiority, and kindred attitudes arising out of a state of mind engendered by the realization of the necessity to meet, through speech, certain social requirements. The memory of previous failures to meet similar requirements serves to 'set off' these reactions.."

According to this theory the child who is continually thwarted in his activities and who has no chance to achieve success will, in all probability, develop a sense of inferiority, and a hypersensitive social consciousness which may predispose him to stuttering. In his social environment the child has to learn his earliest social adjustments. If his egoistic tendencies are strong, this brings him into conflict. The outcome of the conflict will depend upon the kinds of restraints imposed upon his own mental and nervous make-up.

#Fletcher, J.M. - The Problem of Stuttering, p. 226.

Fletcher's theory is obviously worthy of serious consideration. Stuttering appears in fact to be closely associated with unhealthy mental states resulting from social maladjustment. Under certain conditions the stutterer can speak without any difficulty. He is affected by a variety of social relationships. He has his greatest difficulty when he speaks to those whom he regards as his social superiors or who are in authority over him. The vast majority of stutterers, because they suffer from an inferiority complex, have the habit when they come into contact with another person, of thinking first of how that person is going to regard them, rather than thinking of how they are going to regard the other person.

In connection with practical work, the writer has found that the stutterer is able to read in unison without stuttering. This is possibly because he does not have the sole responsibility resting upon him, and that if he 'gets stuck' some other person will keep going. Singing is possible to the stutterer because while singing he is simply vocalizing, and he does not feel any sense of responsibility for conveying a message to others through speech. Since the physiological

processes of singing are identical with those of talking, Fletcher says we are compelled to seek other than physiological explanations for the stutterer's ability to do one but not the other. The social relations in the two acts are different.

A stutterer may speak quite freely when he is speaking to someone who gives him no feeling of inferiority. He can vocalize easily when he is in the company of people to whom he feels no hostility. In singing, his whole body is relaxed, he is not self-conscious and his speech mechanism performs its task satisfactorily. The stutterer is usually able to talk when introducing himself to an inferior, or to someone upon whom he is proposing to confer a favor. His speech often 'blocks' completely when introducing himself to superiors. The subtle character of these social attitudes has a marked effect upon the stutterer's mind and upon his speech.

The mental and emotional factors described above are undoubtedly important in so far as they are attitudes which the stutterer has adopted in association with his defect. It is by no means certain that they can be regarded as the fundamental factors in the production of stuttering.

The neurological explanations of stuttering have been based chiefly on the theory of cortical dominance. The exponents of this theory believe that the principal speech centers of the brain lie on the dominant side, which they say is the left for right-handed persons, and the right in the case of the left-handed. Lee Travis of the State University of Iowa explains the causation of stuttering from a neurological point of view. He says that the primary causes of stuttering are:#

1. "Lack of an inherent bias for the development of a sufficiently dominant gradient of excitation in the central nervous system to integrate the movements of the organism in the production of normal speech.

2. "Environmental interference with the development of a sufficiently dominant gradient of excitation in the central nervous system to integrate the movements of the organism in the production of normal speech.

3. "Brain injuries at and subsequent to birth.

4. "Physical and mental diseases."

Travis believes that his theory of the dominant gradient is a solution of the problem of stuttering. He maintains that approximately one-half of the stutterers under his observation are ambidextrous in unimanual

---

#Travis, L.E. - Speech Pathology, p. 255.

activities.# He believes that a great deal of this ambidexterity is the result of parents and teachers attempting to convert naturally left-handed children to right-handedness. Some of it, however, he believes to be the continuation of a condition of ambidexterity which existed from the beginning. According to this theory the stutterer is one who lacks a dominant gradient - "during stuttering the right and left cerebral hemispheres are equipoised."## The problem then is to develop a strict one-sidedness in all motor activities, so that one dominant side is preferred. The side to be selected and made the leading one is determined by a thorough study of the case. This theory indicates that stuttering comes from the conflict of neural impulses resulting from an incomplete dominance of one side or the other.

Wendell Johnson, a pupil whom L. Travis treated for a severe form of stuttering at the Iowa Speech Clinic laboratories, has written an interesting book£ in connection with his remedial training and laboratory work. Mr. Johnson was 'right-handed' when he arrived at the clinic. On the basis of laboratory findings,

---

Travis, Lee - Speech Pathology, p. 185.
Travis, Lee - Speech Pathology, p.viii.
£ Johnson W. - Because I Stutter.

Mr. Travis found that Johnson's native neural dominance lay in the right hemisphere of the brain. According to this 'neural dominance' theory, then, the patient was naturally left-handed. In spite of this he had always been 'right-handed'. He explains: "No one recalls that I was ever shifted from the use of the left hand to the use of the right; it is apparent that I learned to use the right because the large family with which I was surrounded was made up of right-handed individuals."#

The connection between stuttering and left-handedness has been emphasized so often that it has almost come to be regarded as a fact requiring no proof. While general opinion seems to make a connection between stuttering and the correction of left-handedness, experimental evidence by no means points unequivocally in that direction. On the basis of the results of experiments McAllister## deduces the following general conclusions, which are contradictory to statements made by Travis:

1."Speech disability and left-handedness are not linked together in any causative relationship.

2."Change of handedness does not lead to speech disability in the majority of cases of left-handed

---

Johnson W. Because I Stutter, p. 93.
McAllister, A.H. - Clinical Studies in Speech Therapy, p. 242.

children changing to right-handedness. When speech disorder does follow the change, it may be due to one or other of the following causes:

(a) Over-concentration upon the unilateral process of writing, inhibiting other language functions which are bilateral.

(b) Wrong methods of inducing the change.

(c) Insufficient and inefficient practice in the new facility.

(d) High strung, nervous temperament, upset by the demand for adjustment to new conditions."

McAllister thus maintains that there is no relationship existing between cerebral dominance and stuttering. This view is upheld also by Henry Head# who says in this connection: "There are no 'centres' for speaking, reading, writing, or other forms of behavior comprised in the normal use of language." The whole question of the relation between stuttering and handedness is, as may be concluded from the conflicting evidence given above, an unsettled one. Basing an entire correction program upon the single principle of cerebral dominance, then, would be an unsound procedure.

Head, Henry - Aphasia and Kindred Disorders of Speech, Vol. I, p. 478.

J.S. Greene, who operates the National Hospital for Speech Disorders in New York City, suggests that stuttering begins with a nervous shock of some kind. According to this theory the speech defect starts in the mind of the child when, after some shock that has temporarily disorganized the nervous system, the memory of the experience remains clearly with him. The child then begins to wonder why he could not speak at that particular time, and carries over the idea of failure, and wonders if he will be able to speak the next time. From this condition there is likely to develop nervous disorders resulting in stuttering.

The original faulty speech was a temporary condition due to shock or fright or surprise. Everyone receives shocks. The reason everyone does not become a stutterer is that in the normal nervous system these shocks result in only temporary maladjustment, and the stumbling speech that follows leaves no marked impression on the mind. It is only in the nervously constituted that the maladjustment and the stuttering speech is severe enough to give rise to emotionalism.

The stuttering child then, according to this view, starts with an inherited unstable nervous constitution, then suffers a fright or fall that lowers his resistance and throws the nervous system out of adjustment. The normal

child is a little shaken up but recovers from the shock presently. Greene# says in this regard: "Stuttering children are the victims of sensitive, impressionable, high-strung excitable, or emotional temperaments. Either this or they have a nervous instability which is the aftermath of some children's disease. A fright, a blow, a fall, a shock of some kind may disorganize the machinery of speech." This theory holds that emotionalism in the form of fear and worry tends to cause the speech apparatus to become uncontrollable, once the defect begins. The resultant speech failure throws the child out of adjustment with the people about him. His emotionalism increases in the form of self-pity, fear of ridicule, or discouragement. The emotionalism reacts again upon his speech, and the vicious circle is complete.

Since emotionalism, in the form of fear of being unable to speak, is the thing that causes the stutterer's trouble, Greene concludes that the stutterer should be trained to keep his emotionalism under control. Although Greene looks upon stuttering as an emotional phenomenon, thus placing it in the domain of psychology, he considers the treatment a medical problem.

Greene, J.S. - The Cause and Cure of Speech Defects, p.74.

A Composite Point of View.

When the various aspects of stuttering stressed by different investigators are taken into account, one realizes that stuttering involves many of the complex processes of the personality. Obviously, in the present state of our knowledge, one would be unwise to center attention upon any single factor to the exclusion of all others.

By way of summarizing the many suggestions bearing upon the causes of stuttering, one may conclude that according to different investigators this disorder may be due to one or several of the following factors:

1. Fright.
2. Shock.
3. Psychoneurosis produced by shock or injury.
4. Nervous debility.
5. Careless habits of speech in childhood, the result of diffused thinking or of a child's having been allowed to form the habit of repeating words.
6. Endeavoring to produce sounds with the speech organs in incorrect positions, for instance, opening the mouth in an attempt to produce "m".
7. Imitation of stuttering speech, either direct or indirect.
8. Use of words whose pronunciation and meaning

are beyond the mental development of the child.

9. Forcing a left-handed child to write with his right hand.

10. Speech conflict - thinking in one language and trying to talk in another.

Treatment of Stuttering.

Stuttering is a form of social maladjustment. It is probably true that all stutterers are extremely sensitive, and that they suffer from an inferiority complex. The major causes of stuttering are found in the mass of accumulated emotional associations that result from the daily experiences of trying to talk. Only by establishing counteracting emotional associations can the old associations be removed. Every time the stuttering child suffers embarrassment through inability to talk, he lessens his chances of recovery. Reestablishment of confidence in ability to speak is all important in the corrective procedure. Any program of exercise is merely a means by which confidence may be restored. All measures must be undertaken with this principle in mind. Method of any kind is probably not the important thing. Any means which will accomplish feelings of confidence are to be commended, and any means which destroy confidence are to be condemned.

The treatment outlined below is based on the recognition of the many-sidedness of the causes of

stuttering. It seems doubtful that the treatment of a stutterer can follow any stereotyped plan. The material presented has been gathered from various sources# and modified in many instances to suit particular needs. A large number of the breathing exercises, and the lip, tongue, and palate exercises as well as those dealing with the correct placement of the tongue, lips, teeth in the production of vowels and consonants are taken from Greene##. Many of the word drills and simple sentences were compiled by the writer in connection with the practical work done in the Edmonton schools. A number of short poems were taken from Barrows and Case, "Speech Drills for Children in the Form of Play."

Relaxation Exercises for Speech Correction.

While the directions for the relaxation exercises are detailed the actual execution of them takes no more than ten minutes. The exercises should be taken at least three times a day. To insure a maximum benefit, they should be taken in the morning upon awakening, sometime during the midday, and at night before going to sleep. Most important is regularity and faithfulness in performing the exercises.

Gifford, M.F. - Correcting Nervous Speech Disorders.
Bennett, Rodney - Practical Speech Training for Schools.
Peppard - The Correction of Speech Defects.
Bender and Kleinfeld - Speech Correction Manual.
Borden and Busse - Speech Correction.

##Greene, J.S. - The Cause & Cure of Speech Defects.

Drill I. (a) Lie down at full length.

(b) Stretch the body and limbs to an extreme degree in all directions. Then relax. Repeat often with slow and intense action.

This drill is a preparation for all the drills which follows. Make certain that the limbs have plenty of room. Do the exercise on the floor. A couch with ends open limits movement, especially if the student is tall. A flat pillow may be used under the head, although it is advisable to perform the drill without one.

Drill II. (a) Place the right hand over the region of the diaphragm.

(b) Breathe deeply so that the hand is moved up and down regularly by the undulating movements of the diaphragm.

(c) Inhale on the count of one. (The abdominal wall should rise on each inhalation)

(d) Hold the breath on the count of two.

(e) Exhale the breath on the count of three. (The abdominal wall should collapse)

Repeat the drill until the breathing becomes even and rhythmic breathing. This is nature's way of combating fatigue and recuperating the forces of the body. Modern treatment seems to begin with a series of breathing exercises. These are intended to instil control of the breath and to develop concentration.

Drill III. (a) Inhale on a count of five.

(b) Hold the breath for a count of five.

(c) Exhale on a count of five.

Repeat this drill five times, make certain that the chest remains stationary.

Drill IV. (a) Inhale on a count of five.

(b) Hold the breath for a count of one.

(c) Exhale the breath for a count of one.

(d) Repeat many times.

Drill V. (a) Inhale on a count of one.

(b) Hold the breath for a count of one.

(c) Exhale on a count of five.

(d) Repeat often.

Drill VI. Relaxation of the Back. Repeat five times.

(a) From an extended prone position very slowly and tensely elevate the back and bend forward until the head touches the knees.

(b) Allow the body to fall back to the original position.

Drill VII. (a) Lie on the right side of the body, with arms extended.

(b) Bend forward at the waist until the hands reach the toes, without bending the knees.

(c) Return to the original position.

(d) Now reach the arms backward, bending the head and spine slowly backward and trying to touch the heels with the hands.

(e) Return to the rest position.

(f) Alternate these two movements. First on the right side then on the left. Repeat five times.

Drill VIII. Relaxation of the neck.

(a) Lie on the back. Turn the head so that the right cheek touches the pillow.

(b) Very slowly and tensely turn the head until the right cheek touches the pillow.

(c) Very slowly and tensely turn the head until the right cheek touches the pillow again. Repeat this series of exercises ten times.

Drill IX. (a) Assume a sitting posture.

(b) Allow the head to fall inertly in its shoulder socket, making one complete rotation to twelve slow counts.

(c) Reverse the direction.

(d) Repeat five times, keeping the eyes shut.

Drill X. Relaxation of the lips and cheeks.

(a) Pucker the lips as much as possible.

(b) With the teeth together, smile as broadly as possible.

Repeat (a) and (b) alternately ten times.

Lip Exercises.

(1) Protrude the lips in a puckered position.

(2) Extend the upper lip outward and upward to touch the nose.

(3) Pull down the lower lip, exposing the lower teeth.

(4) With the teeth closed say ah--oo--ee--oo, ah--oo--ee--oo, slowly and with vigorous lip action. Round the lips for oo and stretch them for ee. With the teeth separated and with the mouth wide open repeat the exercises.

(5) Say we-woe-we-woo, we-woe-we-woo with exaggerated lip action. Be sure that the lips are spread as in smiling for we and are rounded for woo.

Drill XI. Relaxation of the forehead. Use a mirror.

(a) Frown as deeply as possible. The eyes should become mere slits, the eyebrows contracted, the surrounding skin creased, the lips tightly pursed.

(b) Raise the eyebrows and elevate the skin on the forehead, waiting until deep horizontal lines appear.

(c) Alternate (a) and (b) ten times.

Drill XII. Relaxation of the eyes.

(a) Close the eyes.

(b) Open them as widely as possible.

(c) Roll them (the eyeballs, that is) in a circle very slowly, first right, then left. Repeat ten times. Focus the sight upon every object that is observed on the periphery of the visual circle.

(d) Shut the eyes and rest.

Drill XIII. Relaxation of the throat.

(a) Yawn with the mouth opened as widely as possible.

(b) Expel the breath on the whispered sound of a as in father. Repeat five times.

(c) Alternate whispered and voiced production of a as in father. Repeat many times.

Speech Games.

Drills for group participation for stutterers can be given in a group as small as two, or as large as fifteen. Six or eight constitute an excellent number for group work. A group of this size is small enough to allow each member a number of opportunities to participate in speaking situations within a class period, and at the same time it is large enough to compose an audience which the stutterer may feel at ease in. When the stutterer proves to himself that he can speak before an audience of eight or ten persons, he has gone a long way toward establishing self-confidence in group situations. It is not absolutely necessary that the group be homogeneous in regard to defects of speech. Lispers, lallers, stutterers, and other speech defectives may be included in one group. When possible, however, it is expedient for a group to be homogeneous.

Drill I. Group and Alternate Reading.

(a) Read in unison a paragraph of at least seven sentences in length, allowing one count for every syllable.

(b) Now let one member of the group read a sentence in the same rate as that in which the paragraph was read.

(c) The next sentence should be read by the

group.

(d) Next, let another member of the group read a sentence.

(e) The next sentence should be read by the group. This method of alternate reading is a profitable warming-up exercise.

Drill II. The Chain Story.

Let some member of the group begin a story with one sentence, such as, "Once upon a time there was a young man who went to China". Another member of the group will add some such sentence as: "This man was interested in becoming a newspaper correspondent for an American newspaper." Still another member will add another sentence. After each member of the group has added a number of sentences (the number of sentences for each member will vary with the size of the group and the time allowed), someone will say, "And so he lived happily ever after."

Because of the many quick turns that a chain story usually entails, much fun and laughter are forthcoming. The results are likely to foster good feeling, spontaneity, co-operation, interest and relaxation.

Drill III. Completing Sentences. Let one member of the group read the following incomplete sentences and another member of the group complete the sentence by adding one word.

1. The opposite of black is -----.
2. Two and two make -----.
3. Students make use of books and -----.
4. The boys and girls ran down the -----.
5. Three thousand soldiers marched -----.
6. In the month of May the flowers are -----.
7. The teacher assigned the homework for -----.
8. The train arrived in Edmonton at -----.
9. It very seldom snows in -----.
10. I went to the grocery store to buy apples, potatoes, and ----- .
11. John gave Mary fifty cents to buy -----.
12. Boys and girls should get at least nine hours of -----.
13. A good student always studies -----.

Drill IV. Let one member of the group give one of the following words, and another member add words to make a complete sentence.

1. Happiness --------.
2. Baseball ---------.
3. English ---------.
4. Rowing ---------.
5. Birds ---------.
6. Chairs ---------.
7. Oranges ---------.

8. Automobiles ---------.
9. Letters ---------.
10. Books ---------.
11. Dogs ---------.
12. College ---------.
13. Vocations ---------.
14. Summer ---------.
15. Swimming ---------.

Drill V. A somewhat more difficult but still interesting sentence game, especially for older students, is the following:

(a) Let one member of the group give a sentence such as, "Newspapers are excellent sources for current events."

(b) Another member of the group will then give a sentence beginning with the last word of the previous sentence, such as "Events in the life of a great man are recorded by biographers and historians."

(c) A third member of the group will then begin a sentence with "historians" and so on. The objectives are fluency and lack of long periods of hesitation between sentences. Tell each student to use a loud resonant voice in speaking and reading, thus constantly developing habits of smooth and controlled articulation and phonation.

Drill VI. Including Opposites. Select one of the words in the following list and use its opposite in a sentence.

black	bitter	hard
light	slow	run
high	short	cold
opaque	giant	kind
beautiful	smile	dull
safe	wealthy	laugh
expensive	talkative	bald
son	mother	reliable
floor	studious	uncle
honest	hut	easy

Drill VII. Rapid Replies.

An exercise which calls for attention, concentration, and speech coordination is the yes-no game. A member of the group will use "yes" and "no" in various combinations. Another member (designated by the first member) will reply with the opposite. Strive for smooth and controlled articulation throughout.

First member: Yes.

Second member: No.

First member: Yes - no - yes.

Second member: No - yes - no.

First member: Yes - yes - no - no - yes - yes.

Second member: No - no - yes - yes - no - no.

The variety of combinations is numberless. The students may be interested in making a game out of the exercises by eliminating those who make mistakes.

Drill VIII. Plays and Dramatic Readings.

The reading of plays in group work is especially profitable to the stutterer. The cast should be rotated so that each member of the group has a turn at reading a character. In many instances, the stutterer will take on the character of the role he is reading. Hence his speech will be changed for the better. One-act plays are more adaptable to the average class period or speech hour than long plays.

Drill IX. Telephone Conversations.

Actual telephone calls are recommended for stutterers. Calls may be made to the teacher, and they may be made to the various members of the group. If the stutterer canassure himself that he can use the telephone, he will gain confidence.

Make-believe telephone conversations may be carried on in the practice period. Let two members of the group take chairs in opposite sides of the room, facing opposite directions. Now let one call a number, while the other responds. The following list provides real telephone situations:

1. Telephone the grocer for a large week-end order.

2. Telephone a friend to arrange for an outing.

3. Telephone a prospective buyer of an automobile.

4. Telephone the police to report a ransacked house.

5. Telephone the gas company to report a mistake in the monthly bill.

6. Telephone a friend to get the homework assignments for the past two days.

7. Telephone the radio station, requesting your favorite singer to sing a certain song.

8. Telephone the neighborhood moving-picture theatre to inquire about the current program.

9. Telephone the president of your club and make some suggestions concerning the next program.

10. Telephone the landlord to report a leak in the roof of your house.

11. Telephone your mother, telling her that you will be late in returning home. Give a reason.

12. Telephone a furniture dealer and ask to rent a piece of furniture that is needed for a play production at school.

Drill X. Speeches.

Stutterers should have many opportunities of expressing their thoughts on subjects in an impromptu fashion. If the stutterer collects his thoughts and

organizes his reactions to an assigned topic before speaking, he talks with a greater degree of self-assurance and conviction than if he begins to speak without knowing how to continue or how to conclude. Generally, the impromptu speaker should arrange his thoughts and ideas around one main point. After the main thought has been delineated by comparison, contrast, and exemplification, the speaker should take his seat. Too often an impromptu speech is ruined by wordiness and lack of thought. Five or six sentences which illustrate one point will make a much better impromptu speech than ten or twelve sentences poorly unified. The following list of subjects is suggested; many more subjects should be added by the speech group.

1. The Pleasure of a Hobby.
2. A Current Event.
3. An Ideal Vacation.
4. A Favorite Radio Program.
5. The Science of Getting High Marks in School.
6. What I Would Do If I Had Just One More Year to Live.
7. Selecting a Vocation.
8. The Most Interesting Book I have Ever Read.
9. Experiences in an Air Raid Shelter.
10. A Recent Discovery in the Field of Science.

Drill XI. Games.

Games that involve speaking are recommended highly for group work. Such a game is Personalities, which is played as follows:

Let one member of the group go outside the room, while the other members decide on the name of a prominent man or woman. After the decision has been made, the member who is "it" is called back into the room. He asks questions of the group in order to try to identify the person of prominence. The question must always be phrased so as to elicit a "yes" or "no" response, as:

Q. "Is he a man?"

A. "Yes, he is a man."

Q. "Is he a Belgian?"

A. "No, he is not a Belgian."

Q. "Is he an American?"

A. "Yes, he is an American."

After the member who is "it" is fairly certain of the identification of the person of prominence, he is permitted to ask three questions, including the names of three persons. If the person is identified in one of three questions, the member wins.

The following exercises used by Mrs. Gifford[#], of Sacramento, California, may be used in addition to those mentioned above. The author begins with Body Stillness Exercises.

1. Stand, taking the erect position, not leaning against desk or chair, then attempt to stand absolutely still without moving body or facial muscles, for thirty seconds. Increase each week until you can stand still for two minutes.

2. Associate the feeling of the word with the idea of the word (the abstract with the concrete). Stand perfectly still for one minute while thinking of the word "STILL". As frequently as possible we associate the constructive ideas with the exercises. Especially is this necessary for stutterers.

Mental Stillness Exercise.- To further build up the abstract idea of calm from the concrete, picture a still place in nature, in the following manner.

Close the eyes and relax the body, Picture the stillness on a desert and imagine oneself there listening to the stillness. Feel the resulting body stillness and calmness. Hold until restless, which at first will be in about half a minute, and after several weeks in from one to two minutes.

Gifford, Mabel F. - Correcting Nervous Speech Disorders, p. 85-6.

Instead of a desert, recall the stillest place that you have ever visited.

This exercise should be taken every day.

First Steps in Control of Speech Mechanism.-

(a) Relax body thoroughly.

(b) Breathe out a deep sigh, feeling the breath pour outward. Extreme relaxation of the throat and mouth.

(c) Pour out phrases on breath steam. (To offset fear associations on certain consonants and vowels)

(d) Feel the teacher's outflowing breath on your hand as she repeats a short poem, line by line. Now repeat the lines in the same smooth, flowing voice, while the teacher feels your breath on her hand. This is an excellent exercise for building up the feeling of speech control.

(e) Visualize each situation of the story involving action, which the teacher reads. Reproduce it, seeing vividly each event as they relate it, and using out-pouring breath.

Rhythm.- Various exercises for rhythm are of value before introducing poem work.

In some children the sense of rhythm is below normal or is disturbed by the emotional conflicts accompanying stuttering.

Many systems for establishing rhythm have been used. They employ music and dancing steps, marching, skipping, clapping and tapping. If poems or rhymes are added while marching or clapping, the results are more effective for speech.

Vowel Drill.- Note: In some stutterers, the memory associations of struggle with certain initial consonants is so great that they are unable to pronounce these words. Use Vowel Reading of phrases with flowing, outpouring breath.

Vowel Reading.

Link vowels of phrases together as one continuous vowel stream omitting all consonants.

Illustration: Dark brown is the river.

Keep pupils on this work until they can gradually add the consonants with an extremely light mouth action.

If the spasmodic action returns review the vowel reading until all spasms disappear.

Strive to keep pupils' minds on the ideas in the phrases, poems or stories, instead of on the motor speech action.

Recall:- Children sit in a relaxed position with eyes closed.

Teacher in slow relaxed tone gives a line of poetry.

Pupils recall or "think" the line three times.

Teacher asks for a volunteer to say the line just as he recalls it.

Imagine the outflowing breath.

Think of the smooth flowing words.

Recall the loose, easy mouth action.

Visual Imagery.- Purpose: Removing attention from the mechanics of speech to the ideas to be conveyed.

Technique: Write a short descriptive sentence on the board. Describe it vividly to stimulate the imagination so that the child "sees through the words" to the thing itself.

Continue with descriptive poetry, prose and short stories as Aesop's Fables, visualizing each phrase in detail.

#Dramatization of Life Situations.- such as:

Telephoning	Talking to the Principal
Introducing people	Buying a ticket
Going to the store	Applying for a position

Procedure: (a) short dialogues prepared by the teacher. (b) short dialogues written by the pupils. (c) impromptu dialogues.

Practical Work.

Recently I studied the case of a chronic stutterer. She was eleven years old, and had talked poorly from

#Gifford, Mabel F. - Correcting Nervous Speech Disorders, p. 106.

birth. First, I tried to find the history of her case, and used the outline suggested on Pages 18 & 19.

1. Name - Ethel C--------.

2. Nationality - She is of Scotch descent, but Canadian born.

3. Her mental and moral status in school and at home.

(a) Intelligence Quotient - 102.

(b) She is in Grade IV and does very ordinary work. The teacher says her speech defect required her to repeat Grade I. This now makes her one year behind normal pupils, even though her I.Q. is normal. She is unable to speak a word when asked a question in class, but her written work is satisfactory.

(c) Ethel is shy and self-conscious and strongly introverted. The teacher says that she is slow to join in group games. She prefers to stand alone and watch rather than to participate. She had two girl friends in Grade II, none in her own class. She probably feels more at ease with younger children, or those socially inferior to her. Her nervousness and bodily tension are easily recognizable. When she is trying to speak, her face often becomes strained, and she looks embarrassed. Her mouth and lips are usually tense. Sometimes her attempts to speak are accompanied by sucking, chewing, or gasping. Blinking of the eyelids and facial tics also occur.

4. Her general physical condition presents a typical undernourished, high-strung child. Being the oldest in a large family, she has been given more responsibility than her physical stamina warrants. Her mother says that the child is susceptible to colds.

5. To my knowledge the girl has no physical defects of the speech organs. Her teeth require dental treatment, but the family is on relief and they have not seen fit to have the teeth attended to.

6. The father has stuttered badly since birth. The mother is of a nervous temperament and she talks in a rapid, jerky manner. Clearly Ethel's is a case of stuttering brough on through imitation. When she started to stutter, she was probably scolded. Her friends may have noticed her defect and ridiculed her. This scolding and ridicule undoubtedly produced an upset mental conditionwhich has aggravated the difficulty until to-day she is very nervous and is a confirmed stutterer.

7. There are no physical defects of any kind noticeable.

8. Her personal history reveals that she has had the usual childhood diseases, mumps and measles, with a strong predisposition towards colds. In the winter the child is underclad and undernourished, and has to

walk two miles to school.

9. Home environment:

(a) Ethel's father is shiftless. He lives on a small farm near a village in Southern Alberta, but prefers to idle in town, while his family and farm are neglected. The standard of living is low, as the family have been in dire circumstances for a number of years. During the winter months, the children rarely have meat; they live chiefly on cabbage, turnips and potatoes.

(b) The mother has reached a point of complete resignation to her fate, and she seems to have lost interest in everything. She nags her husband for playing cards and remaining away from home so much, and he continues to stay away because of the bickering. Thus, a vicious circle of the worst kind is built up in the home. This is an unhealthy environment for any child, and particularly so for one of a very nervous temperament.

(c) There are six children in the family ranging from two to eleven years of age. Every one of

stutters, but Ethel is worst of all.

(d) The mother says that Ethel lies habitually. If the child is asked what she has in her pockets, she will mention any article that she happens to think of, regardless as to whether it is in her pocket or not. The child has often been punished for telling untruths, but the condition persists. I tried to explain that her original intention may have been to tell the truth, but in trying to answer the question, she has probably found it difficult to utter the correct words, and has yielded to the temptation to substitute words which she can pronounce more easily. The child tells untruths not because she wishes to be dishonest, but because sometimes it is too difficult to speak the words necessary for a true answer. After some time, the mother was convinced that Ethel might tell an untruth without any intention or desire tobe dishonest, and said she would adopt a more tolerant attitude toward the child.

Ethel is inclined to be bossy with her younger siblings and is able to speak to them without stuttering. The reasonis obvious. She feels that they are

inferior to her, at least in age, and so she has no mental agitation to interfere with her speech. She says she can talk aloud to herself when no one is near, or to her pet dog without the usual "blocking" or repeating. Only when some psychological disturbance arises does her speech become atypical.

Treatment.

The first day the girl came to me, I asked her to tell me her name. She stood twisting her handkerchief, with eyes downcast. She sputtered and puckered her lips, but could say only E-E-E. Without pretending to notice her hesitancy, I told her that someone had told me that her name was Ethel, and that I thought it was a very pretty name. She nodded her head nervously, and continued to look down. I then remarked on the weather, saying, "Isn't it a nice day?" She tried to answer "Yes", but was able only to say "Y-Y-Y...." Breathing faultily, she was attempting to speak during inhalation of the breath. The child was mentally upset because of her inability to speak. I continued

talking of the clear summer day, of the grain in the wheat fields and of the farm animals. She became interested and unconsciously said without any hesitation, "We have a new puppy at our place called Snippy." When I asked her what color he was, she became conscious of speaking to a comparitive stranger, and could not answer. I told her a story of a dog I used to have when I was her age, and she seemed at ease again.

The next day she was not able to answer my "Hello, Ethel". I began to talk about the nine new little pigs my father had just bought. She was very much interested, and immediately told me about their mother pig and her small pigs. Her speech became "blocked" after a few seconds, and she was unable to continue. I asked her if she would like to sing "There'll Always be an England". Her eyes lit up, as she nodded in the affirmative. I played the piece on the piano and sang the song through with her. On the second playing of the song, I sang only part of the verse with her, and she continued alone. Then she sang through the verse and chorus with the music and later did so without any accompaniment. When I asked her to read the words of the song to me, she said she could not read very well. She told me she had always been able to sing but was afraid she could not pronounce certain words

when she had to read them. The very thought of failure to utter words caused her breathing to become uneven and her face to color. That day we sang several songs together, and she became more and more at ease in my presence. As she was leaving I told her that I would like to see her puppy.

The thirdday she arrived smiling with her pet dog. She gave commands to him in an easy, controlled manner as he performed several tricks. Then we sang "Good Morning To You", and "Here We Go Round the Mulberry Bush". She told me that she sings "Good Morning To You" at school. This was our first mention of school. I asked her if she liked to go to school, but she pursed her lips and shook her head in the negative. She said that the others laugh at her when she tries to answer questions. I told her I wanted to help her with her reading and that we would start with relaxation exercises (see pages 45-49). I explained that these exercises would help to drive away the fear feelings which she said she had when she tried to speak. The fear of speech failure caused a holding of the diaphragm and contraction of the waist and abdominal muscles. This bodily tension made it impossible for the child to speak freely. She asked me if she would ever be able to read "like the other kids." I answered that she would

if she practised the exercises at home in the morning, at noon and before she went to bed. She was eager to do this.

We spent ten minutes at the beginning of each lesson period doing the relaxation exercises. Then she did the "stillness exercises" on page 59 and the breathing exercises outlined on page 126-128. These exercises proved to the child that she has the power to be calm at will. I took great care never to call Ethel's attention to the mechanism of speech. Even after she had hesitated for a considerable period of time or had great difficulty emitting sounds, I continued the lesson as if she had been speaking normally all the time. She seemed relaxed in body and mind after she did the various exercises.

After the first week we began to read simple poems from "A Poetry Speaking Anthology", chosen and edited by Hilda Adams and Anne Croasdell. The first poem we attempted was:

White sheep, white sheep
On a blue hill.
When the wind stops
You all stand still.

You all run away
When the winds blow;
White sheep, white sheep,
Where do you go?

W.H. Davies.

I read the poem first in a low, slow speaking voice, while she sat still and listened with her eyes closed. Then I read it line by line and asked her to visualize the thought in each line. The words I used in that first poetry reading period were something like this:

White sheep, white sheep,

Now think of hundreds of beautiful white sheep, grazing on the hill with the blue sky behind them on a summer day.

On a blue hill.

Picture these snowy white sheep on a big hill covered with green grass and many pretty blue blue flowers - crocusses or blue bells.

When the wind stops

The day is very clear. There is no wind blowing. The leaves of the trees on the hillside are motionless. Everything is calm and quiet.

You all stand still.

The sheep are very quiet, scarcely moving. They feed silently on the peaceful land.

You all run away
When the winds blow;

Suppose a high wind starts blowing. The leaves of the trees begin to murmur, the grass bends on its side, and the hundreds of sheep scurry over the hill.

White sheep, white sheep,

Think again of the hundreds of white sheep. Imagine you see some of the baby lambs left behind as their mothers run over the hill and disappear out of sight.

Where do you go?

Visualize a shepherd running up the hill only to find that his sheep have disappeared. He looks around for them and wonders where they have gone.

Then I read the whole poem through again, as Ethel sat relaxed and thought about the poem. Later she read it in a slow soft voice. During her first attempt, she stopped at the beginning of the second verse, saying y-y-y-you. I asked her to close her eyes for a moment and to think about the hundreds of snowy white sheep grazing peacefully on the hillside. This she did, and was able to continue in a slow voice.

Other poems we read in the above manner are:

<u>The Horseman</u>

I heard a horseman
Ride over the hill:
The moon shone clear,
The night was still;
His helm was silver,
And pale was he;
And the horse he rode
Was of ivory.

- Walter de la Mare.

Bread and Cherries.

"Cherries, ripe cherries,"
  The old woman cried,
In her snowy white apron,
  And basket beside;
And the little boys came,
  Eyes shining, cheeks red,
To buy bags of cherries
  To eat with their bread.

- Walter de la Mare.

Hush-a-Bye, Baby.

Hush-a-bye, baby, on the tree top;
When the wind blows, the cradle will rock;
When the bough breaks, the cradle will fall -
Down will come baby and cradle and all.

The Old Woman.

There was an old woman,
  As I have heard tell
She went to sell pie,
  But her pie would not sell.

She hurried back home,
  But her door-step was high,
And she stumbled and fell
  And a dog ate her pie.

- L.T. Headland.

Ride a Cock-Horse.

Ride a Cock-Horse to Banbury Cross,
To see a fine lady ride on a white horse,
Rings on her fingers and bells on her toes,
She shall have music wherever she goes.

Where are You Going To, My Pretty Maid?

Where are you going to, my pretty maid?
I'm going a-milking, sir, she said.

May I come with you, my pretty maid?
You're kindly welcome, sir, she said.

What is your father, my pretty maid?
My father's a farmer, sir, she said.

What is your fortune, my pretty maid?
My face is my fortune, sir, she said.

Then I cannot marry you, my pretty maid.
Nobody asked you, sir, she said.

A Song.

The feathers of the willow
Are half of them grown yellow
Above the swelling stream;
And ragged are the bushes,
And rusty now the rushes,
And wild the clouded gleam.

The thistle now is older.
His stalk begins to moulder,
His head is white as snow;
The branches all are barer,
The linnet's song is rarer,
The robin pipeth now.

- R.W. Dixon.

Poems suitable for stutterers,older in years, may be found among the many poems in Book III, Senior Work of "A Poetry Speaking Anthology, by Adams and Croasdell.

We began each lesson with relaxation exercises and varied the remainder of the time by selecting two or three of Drills I to XII, on pages 45-49 . Ethel preferred drills III, IV, VI and IX. Drills V, parts of VI, X, and XI are too difficult for a child of eleven years. After a week of quiet practice on Drill IX, she had gained sufficient confidence to call me on the telephone before coming for her class in the morning and in the afternoon. By the end of two months, she was able to carry on a conversation with me for from five to ten minutes, hesitating occasionally.

She became quite gay when we did the "Chain Story" exercise on page 51 . I began the story with the sentence "Once upon a time there was a young lady named Ethel who went to the city." (By the way, she has never been to the city.) The sentences added took interesting and amusing turns, and the story ended with the young lady meeting her grandmother who was coming from the States on a surprise visit to her parents.

At the end of the two summer months, I noticed a considerable improvement in Ethel's speech condition, although she was far from being completely cured.

In moments of relaxation she was able to speak with few pauses and repetitions. I noticed that she responded very favorably to encouraging remarks. They probably lessened the fear of failure which weighed upon her mind, and prevented her from giving her whole attention to what she was going to say. Once she convinces herself that she really can say every sound in the language as well as anybody else, most of her speech difficulties will be ended. Encouragement and praise from her associates will help her to conquer her fear and to establish speech habits which are proof against anxiety and nervousness. As she grows older and has a change of environment away from nervous high strung people, there is reason to hope that her affliction may become less severe.

CHAPTER IV

LISPING: MAJOR SPEECH DEFECT

CHAPTER IV.

LISPING: A MAJOR SPEECH DEFECT.

I. Nature and Causes of Lisping.

Of all the speech defects, lisping or sigmatism is the most common. It is especially frequent in the speech of children during and after the period of second dentition. In many cases, when the second teeth emerge, the tongue is forced into positions which produce lisping. Lisp is commonly used to designate a certain form of mispronunciation, rather than all forms, namely, the use of the th sounds for the s sounds, as in the pronunciation of the word "some", which a lisper would pronounce as "thum". Unless the child is trained to make the proper adjustments of the tongue, sigmatism is most likely to ensue and to remain as a habit throughout life. Early speech habits of children are usually closely identified with those of the mother. This is true because the average child spends more time with its mother than with anyone else. If the mother lisps, the child in all likelihood will also lisp as a matter of mimicry. It is not infrequent, however, to find lisping children who have acquired their speech habits from their father, a sibling, or a playmate.

Many girls of high-school age feel that a lisp adds to their attractiveness.

A number of authorities in the field of speech pathology employ the word "lisp" to identify a great variety of articulation disorders, such as faulty production of th, l, r, delayed speech and so on. Others maintain that the faults of sibilation should be listed under "lisping", i.e. those faults in the production of the family of hissing or breath-pressure sounds and including the sibilant hissing sounds, s z, sh, zh, and their combinations tsh, and dzh. In this discussion, I have included the faulty production of th, l, r, s, z, sh and zh under the general heading of lisping.

II. Types of Sigmatism.

1. Lateral Emission - A very severe type of lisping is known as lateral emission. In most cases of this kind the tongue muscle is weak along its outer or side margin and allows the breath to escape laterally rather than forward over the front of the tongue. The result is a make-shift, blurred substitution rather than a clear,

forward hissing sound. The lateral emission sigmatism is more difficult to correct than any other type of lisping defect. The corrective program involves a preliminary rebuilding of the tongue muscles before their proper control can be established.

2. Infantile Lisping.- This type of lisping occurs when the tongue protrudes between the teeth in the production of various sounds. For example "I thay tho" would be said for "I say so". This defect is due largely to lack of control of the lingual and tongue muscles. The action of the tongue is sluggish in almost all cases of infantile lisping. Such lisping usually develops during the period of second dentition. The loss of the front teeth forms an opening and the tongue, not under sufficient control, slips out through this opening and we get the th in place of the s. In the majority of cases the speech regulates itself when the second teeth grow in. In many instances, however, the tongue continues to protrude when producing s, t, l, d, or n and the lisping habit is confirmed. To correct this form of lisping it is necessary to strengthen the muscles of the tongue and get them under automatic control. Tongue exercises, given below, and the correct position for the production of s, z, zh,

should be taught, in addition to those sounds listed earlier in this paragraph. Lisping of this kind is caused by misuse of a perfect speech mechanism.

Correction of Lisping.

There is no panacea or magic formula for correcting speech defects of this kind. Only by knowing and obeying the laws of habit formation can the muscles of speech be disciplined to produce correct speech sounds. These laws apply alike to all mastery of good speech, type-writing or dancing. In each case, muscular training and coordination are the basis of a skilful performance, and in developing such skill, correct habits must be permanently established. Some of the important factors which enter into habit development are:

1. Willingness.- This is an important factor in speech training. The student who is tempted to neglect his practice because of the time required, or who is easily discouraged, should try to remember that the complete cure of a speech defect is a life-long acquisition and not a temporary expedient for passing a speech course.

2. Time.- Ample time must be allotted for each practice period or results will be meager and of no

lasting value. The minimum practice time allowance for removing obstinate speech defects (such as lisp, lall, stutter or foreign accent) is an hour a day, seven days a week, for about fifteen weeks.

The daily practice period may be divided into two or three units of twenty or thirty minutes each, occurring at different times during the day when the mind is most alert. Less than twenty minutes of practice in a period will contribute very little to the habituation process. Conversely, an overdose of practice in any one period may cause fatigue, and fatigue retards habit development. In the beginning of the corrective program caution should be taken against over exercising and straining poorly developed muscles.

3. Patience.- It is advisable to practice only when the mind is fresh and alert and the spirit willing. The student should have some knowledge of the progress he is making and should be fully aware of definite objectives in all his practice. Otherwise his work will be aimless and he will become impatient to stop.

Setting Up Exercises to be Done at the Beginning of Each Correction Period.

A. Exercise for relieving tension.- Drop your head forward on your chest. Let it hang until it seems to pull the body down with its own weight. Dangle the arms loosely. Without bending your knees, allow your head to descend toward the floor. When your relaxed fingers touch the floor without the slightest stretching, resume an upright position. Repeat this relaxation several times. Be sure that you are slumping, not stretching to the floor. This is sometimes called the "rag doll" exercise.

B. Drills for Strengthening the Lazy Tongue.- The tongue is the chief organ of speech. It is composed of numerous muscles, each of which must be properly controlled in the correct production of speech. Enunciation is practically impossible without the manipulation of the tongue. The training of the tongue is fundamental to the production of correct speech.

1. Slowly move the tip of the tongue about the oral cavity and in every direction. Touch every part (upper and lower teeth, right and left cheeks, hard palate, the inside of the lips) that can be reached without undue muscular strain. Repeat often before proceeding.

2. Open the jaws wide. Extend the tongue outside the oral cavity between the upper lip and teeth. Slowly brush the tip of the tongue over the surface of the upper teeth. Repeat often.

3. Without separating the lips, open the jaws. Extend the tongue outside the oral cavity between the upper teeth and lips. Move the tongue slowly in a semicircle, exerting pressure against the lips. Repeat often.

4. Open the mouth wide. Elevate the tongue so that the tip touches the hard palate. Without moving the lower jaw, gradually increase the pressure of the tongue against the hard palate.

5. Open the mouth. Press the under side of the tip of the tongue against the hard palate. Gradually increase the pressure of the tongue without moving the lower jaw and without permitting the tongue tip to move from the position on the hard palate.

6. Open the mouth wide. Curl the tongue, until the tip touches the front portion of the soft palate. Gradually increase the pressure of the tongue. Return the tongue to the rest position.

Practice these six drills as a warming up exercise. They take only a few minutes to complete.

C. Exercises for establishing freedom and Control of the Tongue.[#] - Do these exercises with a small hand mirror. The mirror should be held in such a way that the light shines on your mouth.

1. Stretch the tongue out and down until it touches the point of the chin. Rest. Repeat this exercise smartly to a count of eight. Relax.
2. Stretch the tongue-tip up towards the tip of the nose. Rest. Repeat this as before. Relax.
3. Alternate (1) and(2). For the first four counts alternate without rest; then rest and relax. Repeat for a count of sixteen in all.
4. Curl the tip of the tongue backward toward the soft palate. Rest. Repeat four times. Relax.
5. Place the tip of the tongue behind the lower front teeth and bulge it out. Rest. Repeat four times. Relax.
6. Place the tip of the tongue behind the upper front teeth. Bulge it out. Rest Repeat four times. Relax.
7. Combine (5) and (6) without a rest for four counts. Then relax. Repeat the group four times. Relax.
8. Place the tip of the tongue behind the upper front teeth. Allow it to fall flat on the floor of the mouth. If you open your mouth wide for this exercise,

See Greene - Op.Cit. p. 223-7.

the tongue gets a maximum of exercise. Repeat eight times. Relax.

9. Groove the tongue, draw it back into the mouth, blowing out a while. The directions are: Groove, blow, rest. Repeat eight times. Relax.

10. Rotate the tongue around the lips. Begin at the right side of the mouth. Directions are: Up, around, down, in. Repeat four times. Relax.

11. Repeat (10) beginning at the left. Repeat four times. Relax.

In order to correct any type of lisp, it is first necessary to establish the correct articulation of all the sibilant sounds.

D. Exercises for Developing Flexible Lips.-

Practise the following exercises rapidly and very lightly with the least possible tension:

(a) oo - ee)
oh - ee)
aw - ee) Four times.
aw - ah

(b) Bo-Peep Four times.
Bubble-babble-pebble. Four times.

If the last line is said rapidly, but distinctly, the sound of a running brook will be heard.

Sometimes b gives a staccato effect of beating or thumping:

Bob caused the hub-bub. Three times.

And sometimes it almost says boo:

A big black bear. Three times.

General Rules for the Correction of all Lisps.

1. Practise faithfully the general tongue and lip gymnastics for lisping, for flexibility and control. See pages 82-85 .

2. Make sure that you are able to distinguish between the correct and the incorrect production of difficult sounds.

3. Practise daily the special drill under the type of lisp which most nearly describes your production.

4. As soon as you can pronounce the sounds with which you have had difficulty, you should begin to use them in sentences. Then you should begin reading aloud, reciting poetry and conversing with your teacher or fellow-students. If you wish to correct a lisp, you must never allow yourself to mispronounce the sound when you have once produced it correctly.

Correction of Faulty Sounds.

Before we turn to the individual case of lisping with whom I have had some practical experience, let

us study the tongue and lip positions for the correct production of TH, L, R, S. Z, SH and ZH along with remedial drills and exercises.

Exercises for Daily Practice for the Correction of the S Sound.- The correct position of the tongue and lips for the production of the sound S is obtained by making your front teeth almost meet, that is, loosely close them. Hold the tip of your tongue up just behind the upper front teeth without touching the palate. Then send out a steady stream of air out over the tip of the tongue, making a soft hissing noise. The sound S is then produced.

1. When the correct sound can be produced in isolation, practise the following combinations:

say	sa	sah	see	so
ays	as	aws	ees	os

This drill may be varied by substituting ts for s.

2. Read the following list of words aloud, slowly, taking great pains to keep the tongue tip behind the teeth:

see, Susan, supper, soap, sell, soap, salt, Sunday, serve, soil, saw, psalm, savage, sit, cent, scent, search, silver, circle, severe, sentinel, secret, sell, settle, sent, sacrifice, sack, sad, safe, soil, salad, sale, satire, Sam, sane, sample, satin, Satan, sword, sand, city, save, sandal, sea, secure, seam, scene, sword, sand, city, secure, second, sigh, seeds, select, servant, sew, sow, sick, sink.

3. Compose a sentence using each of the above words. Write these sentences in your notebook and practise them aloud, taking care to pronounce each word correctly.

4. Prepare to deliver three sentences aloud on each of the following topics:

sailboats, the seasons, the sea, sidewalks, the circus.

Sentences for Practice in the Correction of S Sounds.-

1. The soldier fired on the enemy.
2. The general lifted the sword from the ground.
3. The sailor lowered the gangplank.
4. We enjoy our vacation in the summer.
5. This is the time of roses.
6. Several girls threw roses at the flyers.
7. Now Sally has time to study.
8. Secretly the children stole to the deserted house.
9. "Cherries are ripe", he shouted.
10. One of the best detectives in fiction is "Charlie Chan."
11. Sometimes he shudders at the sounds of the bells.
12. The song of the sword fell sharply on their ears.
13. The children spent their pennies for sugar cookies and chocolate sodas.
14. In order to take pleasure in the unusual, one should learn to observe the usual.
15. "There is so much good in the worst of us", said Robert Louis Stevenson.
16. There's much to be done before peace has been accomplished.
17. The church mouse smiled when his country cousin said he thought he smelled cheese.
18. Chickens scratch on the shore, while ducks swim placidly on the bosom of the waters.
19. This is one of the oldest churches which the city boasts.
20. Necessity is the mother of invention.

Test List to Check Mastery of the Initial, Medial and Final Sibilants, S and Z.

scissors	kisses	stocks
sling	resign	rocks
strong	reset	knocks
streets	insist	strikes
swings	confuses	sinister
nestle	confesses	raspberries
tests	resistance	
lisps	plaster	

Exercises for Correcting Z Substitution for S and Vice Versa.- In reading the following lists of words, make certain that there is a marked distinction between the articulation of z and the articulation of s. Both are made with the same lingual position. See page 94 . The difference is one of phonation and vocalization and breath pressure. If the fingers are placed on the "Adam's Apple", vibration will be felt when the z is produced correctly. When the s sound is produced, no vibration will be felt.

Words with s	Words with z	Words with z and s
hiss	his	presents
buss	buzz	business
ace	haze	haziness
sounds	eyes	sometimes
ice	lose	misunderstandings
loose	raise	essentials
race	zoo	appliances
Sue	rise	noiseless
rice	zeal	histories
seal	fuzzy	hesitancy
fussy	plays	swans
place	seize	sands
cease	dozing	tresses
racer	razor	hazelnuts
dosing	zounds	

Sentences for the Correction of the Above Substitution.- The sentences below are suitable for senior students and adults. Simple sentences for primary children may be easily constructed from three letter words containing S.

1. Integrity is the evidence of all civilization.
   - Diderot.
2. Light is, perhaps, the most wonderful of all visible things. -Leigh Hunt.
3. Sweet Spring, full of sweet days and roses.
   -George Herbert.
4. All the world's a stage
   And all the men and women merely players,
   They have their exits and their entrances;
   And one man in his time plays many parts.
   -Shakespeare.
5. The best things are placed between extremes.
   -Aristotle.
6. Soft as some story divine, the story flows.
   -Homer.
7. Purposes, like eggs, unless they be hatched into action, will run into rottenness.
   -Samuel Smiles.

Exercises for Correcting ʃ Substitution for S.- The ʃ sound is represented in English by si, as in excursion; ti, as in exposition; ci, as in precious; s, as in surely; xi as in anxious; ss, as in session. Practise slowly, alternating S and SH sounds following lists of words, first vertically, then horizontally. Use the mirror constantly to check the articulation of ʃ and S.

Words with s	Words with ʃ	Words with ʃ and s
same	shame	shameless
sin	shin	sunshine
seen	sheen	sheets
sun	shun	shunts
so	show	sash
sell	shell	seashell
said	shed	conscious
sank	shank	assertion
sip	ship	swishing
sad	shad	Shakespeare
sale	shale	anxious
sag	shag	shallowness
seep	sheep	precious
saw	pshaw	expression
sake	shake	description

Drill. Read aloud the following sentences. Underline every s once, and every ʃ twice. Use the mirror and emphasize the correct production of ʃ and s.

1. That which astonishes, astonishes but once. -Joubert.
2. Affection, mistress of passion, sways it to the mood of what it likes or loathes. -Shakespeare.
3. Many a good intention dies from inattention. If, through carelessness or indolence, or selfishness, a good intention is not put into effect, we have lost an opportunity and stolen from the pole of possible good. -Babcock.
4. Inspiration developed the noblest fantasies of the ancients. -Jules Janin.
5. Fashion is an off jumble of contradictions, of sympathies and antipathies. -Hazlitt.
6. Emotion turning back on itself, and not leading on to thought or action, is the element of madness. -John Sterling.

Exercises for Correcting θ Surd (Th as in Think)

Substitution for S.- θ surd is a continuant whispered consonant. It is made correctly by lightly resting the broadened tip of the tongue against the edge of the

incisor teeth and lightly expelling the breath. Excessive breath or tongue pressure in this position will prevent the production of a good th (θ)

After the correct position for the tongue has been practised and tongue control drills given on pages 82-85 , practise the following:

Initially	Medially	Finally
thou	without	with
they	breathing	breathe
than	smoothed	writhe
thus	bathed	scythe
that	lather	teethe
there	smothered	clothe
thine	bother	soothe
though	rather	blithe
then	smoother	wreathe
those	further	bathe
these	southern	swathe
thyself	northern	seethe
this	neither	bequeath
the	oaths	sheathe
the	paths	lithe

1. What art thou, thou idle ceremony?
   What kind of God art thou, that suffer'st more
   Of mortal griefs than do thy worshippers?
   - Shakespeare.

2. O ceremony, show me by thy worth.
   What is thy soul of adoration?
   Art thou aught else but place, degree and form,
   Creating awe and fear in other men?
   - Shakespeare.

3. Be fearful only of thyself, and stand in awe of none more than thine own conscience.
   - Burton.

4. Though thy slumber may be deep.
   Yet thy spirit will not sleep;
   There are shades that will not vanish,
   There are thoughts thou cans't not banish.
   - Byron.

5. Thou slave, thou wretch, thou coward!
Thou little valiant, great in villainy!
Thou ever strong upon the stronger side!
Thou fortune's champion, thou dost never fight
But when her humorous ladyship is by
To teach thee safety.
- Shakespeare.

6. O blithe newcomer! I have heard,
I hear thee and rejoice;
O cuckoo! Shall I call thee bird,
Or but a wandering voice?
- Wordsworth.

7. There is no mistake; there has been no mistake; and there shall be no mistake.
- Duke of Wellington.

8. We hold these truths to be self-evident; That all men are created equal; That they are endowed by their creator with inalienable rights; That among these are life, liberty and the pursuit of happiness.
- Jefferson.

9. Theology is but a science of mind. As schools change, theology must necessarily change. Truth is everlasting, but our ideas of truth are not. Theology is but our ideas of birth classified and arranged.
- Beecher.

10. Many thoughts are so dependent upon the language in which they are clothed that they would lose half their beauty if otherwise expressed.
- Ruskin.

These sentences are too difficult for young children. Simple ones may be found on page 103 .

Exercises for the Sibilant Sounds Z - S.- The same position of the tongue and mouth is used in the formation of s and z. The difference lies in the fact that S is a breath sound and z is a voiced sound.

S, as in the words: son - lesson - miss. Make your front teeth almost meet, that is, loosely close them - hold the tip of your tongue up just behind the upper front teeth without touching the palate - then send out a steady stream of air out over the tip of the tongue, making a soft hissing noise. Do it and you will produce the sound of s. Practise this sound by carefully repeating the following words:

see	lesson	kiss
soup	assist	pass

Z as in the words: zone - dazzle - maze. Make your front teeth almost meet, that is, loosely close them - hold the tip of your tongue up just behind the upper front teeth without touching the palate - then use your voice, make a buzzing noise. Do it, and you will produce the sound of z. Practise this sound by carefully repeating the following words:

zone	dazzle	prize	drizzle
zinc	lizard	gaze	nozzle

Exercises for the Sibilant Sounds SH and ZH.-

Sh - ZH. In the formation of sh and zh the position is the same for each. The difference lies in the fact that sh is a breath sound and zh is a voiced sound.

Sh, as in the words: shut - bashful - cash. Make your teeth almost meet, that is, loosely close them and draw back your tongue so that there is free space

between the front of your tongue and your teeth, then send out a steady stream of air. Do it and you will produce the sound of sh.

Practise the sound by carefully repeating the following words:

shop	bushel	flush	ship
shave	bishop	brush	wish
shore	cashier	wash	fresh

Zh as in the words: azure - treasure - ambrosia. (the s or z in these words is sounded as zh) Make your front teeth almost meet, that is, loosely close them and draw back your tongue so that there is free space between the front of your tongue and your teeth - then use your voice. Do it and you will produce the sound of zh.

Practise this sound by repeating the following words:

leisure	azure	vision	decision
explosion	seizure	treasure	pleasure

Exercises for the Production of L. - L.- In the formation of L and R, the position is almost the same for each. The difference lies in the fact that for l the tip of the tongue touches the palate, while for r, the tongue is free.

L, as in the words: lame - yellow - bell. Place the tip of your tongue against the gum behind the upper

front teeth, a little further back than for t and hold it there while using your voice. Do it and you will produce the sound of l.

Practise this sound by carefully repeating the following words:

lady	coblar	peal	yellow
let	fellow	boil	lolling
look	hollow	fool	billow
lip	swallow	jail	jolly
lion	pillow	seal	bully
lap	lily	ball	silly
lake	bellows	bell	tallow
light	Billy	pearl	gallon
loose	dollar	kill	sallow
land	gallows	bill	Ellen
live	duller	doll	miller
large	hollow	mill	
love	jelly	nail	

Exercises for the Production of R.- R as in the words: run - arrow - race.

Direct the tip of your tongue towards the gum behind the upper front teeth as you did for l, but do not touch your palate - hold it in that position while using your voice. Do it and you will produce the sound of r. Practise this sound by repeating the following words:

race	sorrow	very	error
rod	mirror	rare	road
rise	marry	roller	read
red	hurry	original	river
rid	sparrow	erect	rail
rude	sorry	arrange	dairy
rag	morrow	royal	erase
roll	berry,	arrest	real
ran	carry	Orient	room
rat	Harry	errand	root
rut	merry	ruffle	romance

Exercises for the Consonant R. (for Senior Children and Adults.).-

1. Roll on, thou deep and dark blue Ocean, roll.
- Byron.

2. The river rolls in its rocky bed.
-E. Pauline Johnson

3. The horse and rider reel:
They reel, they roll in clanging lists,
And when the tide of combat stands,
Perfume and flowers fall in showers,
That lightly rain from ladies' hands.
- Tennyson.

4. Oh, ye whose hearts are resonant, and ring to
War's romance,
Hear ye the story of a boy, a peasant boy of Frence.
-Robert W.Service.

5. Great rats, small rats, lean rats, brawny rats,
Brown rats, black rats, gray rats, tawny rats,
Grave old plodders, gay young friskers.
- Browning.

6. The road was a ribbon of moonlight over the purple
moor,
And the highwayman came riding - riding - riding -
The highwayman came riding, up to the old inn door.
- Alfred Noyes.

Exercises for the Production of TH.- In the formation of TH the position is the same for the breath sound as for the voiced sound.

Th as in the words: think - author - teeth. Place the tip of your tongue slightly against the edge of your upper teeth, then send out your breath. Do it, and you will produce the sound of th. Practise this sound by repeating the following words:

thank	breath	tooth	teeth
think	ether	sixth	therapy
thread	athlete	faith	thirteen
thimble	method	width	Thursday
third	author	earth	thousand

Th as in the words: there - weather - breathe. Place the tip of your tongue slightly against the edge of your upper teeth, then use your voice. Do it, and you will produce the sound of th. Practise this sound by repeating the following words:

than	either	bathe	feather
that	mother	clothe	leather
they	father	smooth	rather
those	another	breathe	bother
these	niether	soothe	gather

Practical Experience.

During the past school term, Henry L----- came to my attention for remedial treatment for lisping. He is eight years old, and is in Grade II in school, with an I.Q. of 82. His teacher reports that he is poor in his studies, is lazy in the class room, and delights in annoying those who wish to study. He does not show any nervous tendencies and was not too willing to cooperate in the speech exercises. He lisped only on two letters - he substituted "S" for "TH", instead of the usual "TH" for "S", and "OW" for "R". His speech organs are not defective. He speaks

very well except for the two sounds already mentioned. His mother and an older brother lisp, so Henry probably acquired his lisp through imitation of them.

At the beginning of each speech period we drilled on the tongue exercises on pages 82-86. We started corrective procedure on the R first. I asked him to direct the tip of his tongue towards the gum behind the upper front teeth, but not to touch the palate. Holding that position he used his voice, to produce the R sound. I found difficulty in getting him to understand the exact position of the tongue for this sound. For years, Henry had been saying R with the lip movement necessary for the production of "OW" and could not get accustomed to stationary lips and a moving tongue for the production of R. He is a slow thinker and a slow speaker, and does not understand instructions as a normal child does. I next tried a different procedure for the production of R. I asked him to place his knuckle between his teeth and to curl his tongue back. Then with his tongue and mouth in this position, I asked him to pronounce Z. He did this without difficulty. At first there was too much "buzz", but he gradually reduced the breath force and the amount of friction until he obtained a good R.

In correcting the pronunciation of a sound, do not present the corrected form of the new sound with words formerly mispronounced. Combine the correct sound with various vowel sounds in new combinations, for the child has no incorrect auditory imagery in these cases and will have practically no difficulty in learning them. Isolated consonant sounds are more difficult for the child than sounds combined with vowels. For instance, the child can say ray, raw, ree, ru, ri, roh, roo and rye much more easily than he can pronounce the sound R alone. I asked Henry to open his mouth as widely as possible when he gave the vowel sound, and to use a hand mirror so that he could get a correct visual as well as a correct auditory image of the desired sound. Considerable time is necessary to make the above combinations because it is difficult for the child to stop the lip movement which was formerly a part of the sound. He used a toothpick to hold his bottom lip away from his teeth until he had realized the correct tongue position for R.

Then I asked him to repeat the following syllables, being careful to note the change from lip to tongue position on each syllable:

wa	- ra	wo	- ro	woy	- roy
we	- re	woo	- roo	wair	- rair
wi	- ri	waw	- raw	wow	- row

Then he repeated the following words, after I asked him to make sure to direct the tip of his tongue towards the upper gum when he produced the consonant R:

race	red	rug
rude	rag	row
raft	rice	rudder
reed	ride	rough

The next step was to use the new sound between vowels as in the words very, carry, marry and hurry. Here again, considerable practice was necessary. A list of words which I found of great value are given on page 96 . Another list may be found on page 117 . Henry then practised simple sentences after underlining all of the Rs. Some of these sentences we used are:

1. I ran a race with my brother.
2. Our dog, Rover, killed a large rabbit.
3. Mother cooked rice for dessert at dinner.
4. The teacher rang the bell for recess.
5. The roar of the fire was great.
6. I found a red rag yesterday near the store.
7. I practise my exercises with a mirror.
8. I have two brothers. Their names are Jerry and Harry.

9. Father found a dead sparrow in our yard.

10. After four tomorrow, our class will arrange a Christmas concert.

When Henry was able to use R in sentences and in ordinary conversation with ease, we began remedial work on TH. We followed a procedure similar to that outlined on page 86. First, he learned the correct tongue and lip position for the production of TH. He did this by placing the tip of his tongue slightly against the edge of his upper teeth and sending out his breath. This gives the sound TH as in think - author - teeth. Then he combined this new sound with vowels: tha, thee, the, tho, thoo. I next asked him to repeat the following syllables, being careful to note the change in lip and tongue position on each syllable:

sa - tha	so - tho	soy - thoy
se - the	soo - thoo	sair- thair
si - thi	saw - thaw	sow - thow

He practised the following lists of words:

thank	breath	tooth	teeth
think	enter	faith	Thursday
thread	athlete	sixth	thousand
thimble	method	width	thirteen
third	author	earth	forth

TH may be a breath sound, as in the above words, or a voiced sound, found in the lists below. The tongue position is the same in the production of both sounds, the only difference being that in the case of the first only the breath is sent out, while in the other the voice is used after the correct position has been attained.

than	either	bathe	feather
that	mother	clothe	leather
they	father	smooth	rather
those	another	breathe	bother
these	neither	soothe	gather

Then we practised the word lists on page 92 and the sentences on pages 92 & 113 . Other sentences suitable are:

1. Tell them to do this. Tell them to do that.
2. Did he do this? Did he do that?
3. Then they walked with him to Thirty-third Street.
4. We planted three trees.
5. Follow through.

Henry was now in a position to read simple poems. Some I used are given below. In selecting rhymes for any corrective work, remember that the aim is not to teach literary gems, but simply to train the child to enunciate correctly. The material selected for young

children should be simple in construction and easy to remember. Use the mirror constantly in all exercises designed to correct lisping.

Simple Simon met a pie-man
  Going to the fair;
Said Simple Simon to the pie-man
  "Let me taste your ware."

Said the pie-man to Simple Simon,
  "Show me first your penny",
Said Simple Simon to the pie-man,
  "Indeed, I have not any."

- Mother Goose.

Swift and sure the swallow,
  Slow and sure the snail;
Slow and sure may miss his way;
  Swift and sure may fail.

- Anon.

I saw a ship a-sailing,
  A-sailing on the sea;
Her masts were of the shining gold,
  Her decks of ivory.

- Gabriel Setoun.

There's no dew left on the daisies and clover,
  There's no rain left in heaven;
I've said my "seven times" over and over -
  Seven times one are seven.

- Jean Ingelow.

As thus we sat in darkness,
  Each one busy with his prayers.
"We are lost," the captain shouted,
  As he staggered down the stairs.

But his little daughter whispered,
  As she took his icy hand,
"Isn't God upon the ocean
  Just the same as on the land?"

- James T. Fields.

After six months of remedial treatment, Henry was able to say the formerly mispronounced sounds in a normal manner. Only when he was in a hurry or when he was not conscious of his speech did he revert to his former habits.

Conclusion.

Lisping causes a great deal of unnecessary embarrassment and shame to the individual. It can be readily eliminated through the proper corrective measures. The lisper lacks control of the tongue muscles. A sluggish tongue action results. Do corrective work by strengthening the tongue muscles so that the child will have automatic control of them. Then show the correct tongue and lip positions for the faultily pronounced sounds. Next present to the child the correct visual and auditory imagery of the desired sounds. A small hand mirror is of incalculable help in this exercise. Sometimes it is necessary to hold the tip of the tongue down with a tooth pick so that the child can form correct motor habits. Then give exercises in combining the sibilant sounds with vowel sounds. The child should be required to open his mouth wide when giving the vowel sound which follows the

consonant. When the patient has learned to produce the various sounds correctly he should use them first in words, then in simple sentences, and later in poems and pieces of prose, and finally in conversation.

CHAPTER V

MINOR SPEECH DEFECTS

CHAPTER V

MINOR SPEECH DEFECTS

(i) BABY TALK.

Definition and Causes of Baby Talk.

Baby talk is the result of erroneous interpretation and production of sounds. Incorrect auditory and motor images are often early established as a result of foolish prattle by parents. Children are not born with speech images - they acquire them through the auditory sense. There are very few instances in which mental and physical defects accompany baby talk. A child cannot form correct auditory images when he is taught incorrect ones from his parents. Care should be taken to supply the child with good speech copy long before he even begins to speak, because internal speech impressions are formed months before motor or external speech begins.

The general attitude of parents is that it is useless to spend time in correcting baby talk. The vast majority of our "baby-talkers" do outgrow this defect. It is fortunate that an immature brain can replace the erroneous mental and physical speech habits with correct ones, without

definite training. When we consider that for months and often for years, a child has been performing definite physical movements, for example, using the tip of the tongue and producing a t sound for the k sound, resulting in tan for can, it is remarkable that he can make this readjustment at all.

Nature of Baby Talk.

The following are some of the errors common to most baby talkers.

(a) Substitution of -

1. t for k (or hard c) as tar for car.
2. d for g (hard) as do for go.
3. f for th as fought for thought.
4. w or y for l as wook or yook for look.
5. th for f as thour for four.
6. w for v as wery for very.
7. s for sh as soe for shoe.
8. w for r as wan for ran.

(b) Elimination of -

1. r after consonant sounds as buvver for brother
2. Initial l as ook for look.
3. l after consonants as pease for please.
4. Initial y as oo for you, es for yes.
5. St (in some cases the s is eliminated, in others the t).

Correction of Baby Talk.

Because the whispered sound is more easily grasped by the child than the vocalized consonant, teach the whispered form first. For instance, teach the K sound before teaching the G sound. Do not have the child sound the vocalized consonants separately, as vocalization is a difficult problem for him. The child is able to imitate much easier if the teacher says gay, gah, go, goo and gi, than if she pronounces the hard G alone.

Teach consonants in combination with the vowels. When correcting the production of a sound, do not apply the corrected form to the words formerly mispronounced. Combine the newly taught sound with the various vowel sounds, thereby forming unfamiliar combinations. The reason for this procedure is that the child can apply the newly acquired sound to an unfamiliar combination with practically no difficulty; whereas, if he attempts to apply the newly acquired sound to a familiar combination, before the motor coordinations involved in the new have become fixed, he will fall back into his old errors. For example, if a child has difficulty with the words cat, candy, can, car, carry, use such combinations as kah, ka, kee, kaw, koh, koo,

which have no old associations but which develop the correct production of k. Such words as cat, candy and can are not suitable drill material because they recall coordinations which constitute this particular speech defect. When the child has developed definite control of the new coordinations, then he can be taught to apply them effectively to the old words that caused his trouble.

Drill Exercises for Baby-Talkers.

1. Substitution of t for k.- The difficulty here lies in the fact that the child produces the sound by raising the tip of the tongue to the palate rather than by raising the back of the tongue to the palate. In the formation of k the child is told to press the back of his tongue up against the palate - then release or drop it suddenly by means of a puff of air causing an explosive sound. This sound is the required k. Sometimes it is necessary for the teacher to hold down the tip of the tongue with a tongue depressor or a tooth pic.

When the sound can be correctly formed, combine it with the vowel sounds:

kah	kee	koh	ki
ka	kaw	koo	ku

The next step is to apply the difficult sound to simple words, as:

cow	caught	talk	kill
key	kind	look	kept
cough	kite	ask	milk

Then apply it to sentences, using the sound k:

1. The cat ate the candy.
2. I can see a cow.
3. Daddy caught the car.
4. The key can open the door.
5. My cold made me cough.

Now we use sentences with the final k:

1. I like candy.
2. Let me look at the book.
3. I will take the cake to the sick boy.
4. John took a sail on the lake.

2. Substitution of d for g (hard).- Give the correct tongue position for g. Ask the patient to press the back of the tongue up against the palate - then release or drop it suddenly, using his voice at the same time. This will produce the sound of g. Constant use of the hand mirror is advocated for the production of all of these sounds, so that the proper visual as well as auditory images will be formed in the mind of the child. Next, give the various vowel sounds in combination with the consonant g:

gah	gee	gi	go
ga	gaw	gu	goo

Practise with simple familiar words until the child masters the initial, medial and final g, as:

good	bigger	big
gas	digger	dog
get	swagger	rag
gold	giggle	fig

Then give further practice with simple sentences:

1. My grandfather is digging for gold in the North.
2. A girl at school giggled when she got a rag doll.
3. I gave the teacher a big bag of figs.
4. I will be a good girl as I grow bigger.

3.Substitution of f for th.- With the aid of the mirror, give the correct tongue position for the sound th. Place the tip of the tongue slightly against the edge of the upper teeth, then send out the breath. This will produce the sound of th. Now combine th with various vowel sounds:

tha	the	thi	thaw
thah	thee	tho	thoo

Practise simple words with the sound th used in the initial, medial and final positions:

thank	ether	teeth
think	athlete	width
thread	method	faith
thimble	author	earth
third	other	

Apply the th sound to simple sentences:

1. I thank you.
2. The boy was there.
3. That thimble is mother's.
4. I think that father and mother took brother with them.
5. Father pulled my tooth.
6. Take Martha with you.

An excellent drill poem for the correction of this sound is "The House that Jack Built."

4. Substitution of w or y for l:- This substitution is caused by the use of the lips in place of the tongue. The correct position for the tongue in the production of l is to place the tip of the tongue against the gum behind the upper front teeth, a little farther back than for t and hold it there while using your voice. This will produce the sound of l.

In the following drill, be sure that the child keeps the mouth well open, enabling the tongue to perform the maximum of action.

Drill I.	Drill II.
lah	ahl
la	al
lee	eel
law	ell
loh	awl
loo	ohl
li	ool
lu	owl

Next apply the sound l to simple words:

lady	collar	peal
let	fellow	boil
look	lollow	fool
lip	lily	jail
lion	Billy	ball
land	dollar	bell
live	duller	nail
love	jelly	kill
large	duller	doll

Simple sentences using the above words, or other simple words containing the letter l are then practised.

5. & 6. Substitution of th for v or f.- Here the trouble is caused by pressing or biting the tongue, rather than the lips as must be done in producing f or v, and as a result we get thour for four. A substitution of w for v is also found in the speech of baby-talkers; as wery for very. The position of the tongue and lips for f and v is to put your lower lip against the edge of your upper front teeth, then while holding that position send out your breath softly over your lip. You will produce the sound of f. With similar lip and tongue positions use your voice and you will produce the sound of v.

The following drills for the combination of vowel sounds with f and v are given before words using the sounds:

Drill I	Drill II	Drill III	Drill IV
fah	ahf	vah	ahv
fa	af	va	av
fee	eef	vee	eev
faw	awf	vaw	awv
foh	ohf	voh	ohv
foo	oof	voo	oov

Words:

find	coffee	leaf	vine	seven	love
full	offer	cuff	vest	river	brave
fear	effort	roof	voice	over	stove
fun	differ	wolf	visit	saving	leave
first	scoffer	deaf	very	Rover	move

Simple sentences prove helpful.

1. Four and one are five.
2. Forty and four are forty-four.
3. Fred is a very fine fellow.
4. I have a velvet coat.

7. Substitution of s for sh.- There is a decided difference in the position of the tongue and lips for the production of these two sounds. The lips are drawn back approximating a smile producing s, while the lips are pushed forward when producing sh. In the formation of s, make your front teeth almost meet, that is, loosely close them - hold the tip of your tongue up just behind the upper front teeth without touching the palate - then send out a steady stream of air out over the tip of the tongue, making a soft hissing noise. This will produce the sound of s.

In the formation of sh the front teeth almost meet, that is, they are loosely closed, and then the tongue

is drawn back so that there is free space between the front of the tongue and the teeth. When a steady stream of air is sent out, the sh sound is produced.

Drill I (Initial sh)	Drill II (Final sh)
shah	ahsh
sha	ash
shee	eesh
shaw	awsh
shoh	ohsh
shoo	ohsh

Drill words, using the sh sound in initial, medial and final positions:

shop	bushel	wish
shave	bishop	fresh
shore	cashier	flush
ship	ash-can	wash
shoe	ashamed	fish

Simple sentences are:

1. Show me your shoe.
2. A fish is in the dish.
3. I wish I could go.
4. John is ashamed.
5. She can shine her shoes.

8. Substitution of w for r:- In this case the child is trying to produce r with the lips instead of with the tongue. To produce the sound r, direct the tip of the tongue towards the gum behind the upper front teeth, but do not touch the palate - hold it in that position while using the voice and the sound r

will be produced. See the practical example on pages 99 & 100.

Run the sounds together in the following drill:

rah-rah-rah	roh-roh-roh
ra-ra-ra	roo-roo-roo
ree-ree-ree	ray-ray-ray
raw-raw-raw	rye-rye-rye

Drill words are:

race	carry	river
rod	berry	rooster
rise	sorry	rear
rug	sparrow	roller
rail	marry	array
rut	rarity	roaster
rat	merry	cheers
red	hurry	tear

Sentences:

1. Let us run a race.
2. I have a red rose.
3. Rover ran far away.
4. Her mother rode on the car.
5. I ripped my red coat.

In addition to the above exercises for the r sound, additional sentences and poems may be found under the heading of Lisping on pages 97 and 101.

9. Substitution of shfor ch, also y for j:-

In the formation of ch, the tip of the tongue is placed against the upper gum behind the front teeth, as for t, then quickly run into ch by making the front teeth almost meet, that is, loosely close them, draw back the tongue while sending out the breath. Ch sound will be produced.

Drills:

chah	ahch
cha	ach
chee	eech
chaw	awch
choh	ohch
choo	ooch

After the child is able to combine the difficult sound with the various vowel sounds, use the sound in simple words:

Drill for initial ch.	Drill for medial ch.	Drill for final ch
chair	merchant	match
church	pitcher	which
chin	orchard	touch
check	teacher	crutch
cheek	catcher	stitch
chap	richer	latch
chain	preacher	

Sentences:

1. Charlie is my cheery chum.
2. I chased him around the chair.
3. My chum has a gold chain.
4. Show me the cherries.

J is the vocalized ch. It is therefore taught through hearing the teacher make the sound after the ch is under control.

Drills:

jah	ahj
ja	aj
jee	eej
jaw	awj
joh	ohj
joo	ooj

Words:

joy	major	Japan
June	enjoy	job
jaw	injury	juvenile
jump	January	jewel
Jill	unjust	jot
judge	justice	junket
jazz	rejoice	just
junk	enjoin	justify
Jack	Jewish	jingle

Sentences:

1. I like cheese.
2. George picked the cherries.
3. Jack jumped over the chair.
4. Jenny ate the jelly.

Drill Rhymes for Correcting Baby Talk.

The following rhymes are helpful in applying the correct form of the sounds mispronounced by baby-talkers.

K.

Polly put the kettle on,
Polly put the kettle on
Polly put the kettle on
We'll all have tea.

Hickory, dickory, dock,
The mouse ran up the clock,
The clock struck one,
The mouse ran down,
Hickory, dickory, dock

J.

There were two blackbirds
  Sitting on a hill,
The one named Jack,
  And the other named Jill;
Fly away Jack!
  Fly away, Jill!
Come back, Jack!
  Come back, Jill!

J. Jack, be nimble,
Jack be quick.
Jack, jump over,
The candle stick.

CH. If I'd as much money as I could spend,
I never would cry, "Old chairs to mend,
Old chairs to mend. Old chairs to mend."
I never would cry, "Old chairs to mend."

G. Goosey, Goosey, Gander,
Where shall I wander?
Upstairs and downstairs,
And in my lady's chamber.

SH. This is the way we wash our hands,
Wash our hands,
Wash our hands;
This is the way we wash our hands
On a cold and frosty morning.

TH. This little pig went to market;
This little pig stayed home;
This little pig had roast meat;
This little pig had none;
This little pig said, "Wee, wee, wee,
I can't find my way home."

TH and G. This is the way we go to school,
Go to school,
Go to school,
This is the way we go to school
On a cold and frosty morning.

R. Little Robin Redbreast,
Sat upon a rail,
Niddle-naddle went his head,
Wiggle-waggle went his tail.

St. "Stop, stop, pretty water,"
Said Mary one day
To a frolicsome brook
That was running away.

"You run on so fast,
I wish you would stay
My boat and my flowers
You will carry away."

F. Every fiddler he had a fine fiddle
And a very fine fiddle had he;
"Twee, tweedle-dee, tweedle-dee," went the fiddlers three.
Oh, there's none so rare as can compare
With King Cole and his fiddlers three.

V. Valentine, O Valentine,
Curl your locks as I do mine;
Two before and two behind
Good-morrow to you, Valentine.

Practical Work.

During the past school term, an interesting case of a lad who had a serious speech defect was observed. I tried to get a complete history of his case by consulting his mother, the principal, his room teacher and the school nurse. I followed the outline suggested on pages 18 & 19 .

1. Name - Bruce S---------.

2. Nationality - The boy was born in Edmonton on August 29, 1932, of parents of Irish extraction.

3. Mental and moral status in school and at home as shown by:

(a) Intelligence tests. The Binet test shows that he has an Intelligence Quotient of 105.

(b) School Work. The teacher reports that Bruce does very satisfactory written work. His mind is active. He is able to see number relationships quickly and can grasp the thought of the printed page even though his articulation is poor. He does not hesitate to attempt to answer questions. One day the principal and I entered the class room and the teacher asked Bruce to read. He immediately stepped to the front of the room and read a story from his primer without the slightest embarrassment. The fact that we understood

little of what he read made no difference to him. When he finished reading he smiled and walked to his seat, perfectly at ease. He ranks among the top ten in a class of thirty-five.

(c) Character and Personality. Bruce is a pleasant, well mannered youngster. His outward appearance is that of a normal healthy lad of eight years. He is a general favorite among his classmates. He is always ready to cooperate with others and excels in sports. He is neither moody nor selfish. Being a member of a large family, he has learned to consider others. The teacher says he has an amiable disposition, with no emotional disturbance of any kind.

4. General Physical Condition. He is normal physically. He weighs 54 pounds and is 49 inches high. Mentally and physically he is very active.

5. Physical Defects throughout the Speech Organs. The school physician reports that Bruce has no physical defects of the jaws, tongue, palates or lips.

6. Nature of the Speech Organ Defect: its peculiarities.- Bruce's speech defect is puzzling. It seems to be the result of a combination of baby talk and lisping. The defect is aggravated by the loss of the

four front teeth. He has very little control of the lingual and tongue muscles. At first I found difficulty in understanding anything he said. A professor from the University of Alberta, who so kindly arranged my first meeting with Bruce, pointed to several common articles and asked the child to name them. The boy substituted the following words during that first meeting:

wah	for watch
ah	for eye
teh	for chair
wih	for lips
a (as in man)	for yes
thi	for finger

His teacher, Miss Campbell, he called Mih Cah. I asked him what he did at recess and he said, "Ah peh bah", for "I play ball."

7. He has no physical defects.

8. Illnesses, past or chronic. He has had measles and an operation for tonsils and adenoids.

9. Home Environment.

(a) Condition of the Home: standard of living - I visited the home on several occasions during the past year and found there a congenial atmosphere. There are seven children in the family ranging from two to fifteen years of age. The babies are twin girls. I have not met the father, but the mother is a pleasant,

intelligent, understanding woman. Mr. S------ has a well-paid government position and provides a comfortable home for his family.

(b) Care of the Child. The children are all well cared for. The S------s live in a large, well kept home with ample room for the family.

(c) Associations: speech defects of other members of the family. A sister, aged fifteen years and a brother, aged twelve years, have speech defects of the articulation nature. Neither case is as serious as Bruce's is.

(d) Sympathy and Cooperation of the Family. The mother was very pleased when I spoke to her about giving Bruce remedial treatment. She said she hadn't much time to spend on him because, even though she employs a maid, the household duties are heavy. She curls in the winter and lawn bowls in the summer.

In all probability Bruce's speech defect began through imitation of his older brother and sister. The mother was too busy with household duties to give the lad the individual attention required to correct his speech at an early age. As a consequence, the muscles of his tongue have never been properly exercised. He was the baby of the family for six years (until the twins arrived) and did not feel the need to articulate clearly.

He seems to think it is unnecessary to sound all of the letters of a word to convey the meaning. Invariably he says only the first two letters of a word, for example, he says:

thoo for shoe	wag for large
uh teh for upstairs	eh for air
nee for near	it for hate
buh for buns	wahss for lace
thih for finger	feh for fair
bowdee for birthday	oht for hurt

Treatment.- I gave Bruce many exercises for breath control, articulation and strengthening tongue muscles before proceeding to treat individual sounds. During the first two weeks of remedial treatment he practised exercises for ten minutes and relaxed for five minutes and then continued the exercises. In the five minute intervals we talked about school work, about games and other things in which he was interested. He chattered freely with no uneasiness. As he talked I wrote down various words he mispronounced for later use. The exercises I used for the correction of his case are:

Breathing Exercises (general):

1. The child sits, or stands, in correct position. The teacher beats a regular one, two, three, the child inhaling through the nose -- in, two, three; out, two three. Try to get the breath flowing in and out smoothly.

2. Repeat the above exercise, exhaling through the nose.

3. Beat three as before. This time include a "stay" which is better than "hold" as it is less likely to make the pupil tense. In, two, three; stay, two, three; out, two, three.

4. Breathe in, two, three. On "out" of next bar, clap the hands smartly. Children drop the jaw and clear the lungs quickly on "ha"; in, two, three; out "ha". Repeat three times.

5. "Big Man". - Raise the chest, extending it as much as possible by muscular action. Breathe in, two, three; out, two, three.

6. "Mr. Frog".- By muscular action swell out the lower ribs and draw them in; out, in. Repeat three times.

7. "Tired Dog". - With lower ribs swelled out, pant five times.

Breathing Exercises for Control:#

1. "Chickadee". - Take a deep breath and exhale, saying "chickadee, dee, dee," as long as possible.

2. "Steam Engine".- Take a deep breath and exhale saying "s-s-s" as long as possible.

Taken from Alberta Course of Studies, 1940-41.

3. "Feather-in-the-air". - Take a deep breath and, pretending to toss a feather into the air, keep it up by blowing as long as possible.

4. "Swim-under-the-water". - Take a deep breath and, moving the arms from front to back as in swimming, hold the breath for 2,3,5,7,10 counts.

5. "Let-go". - Inhale, exhale, letting a little go in each count; 1,2,3,4; Practise this till the child can let go on counts up to ten.

Relaxation Exercises:

1. Take a deep breath slowly; exhale slowly.

2. Raise limp arms slowly; lower slowly.

3. Bend the body forward at the waist, drooping limply. Raise slowly.

4. Lower the head slowly to the chest; raise slowly.

5. Drop the jaw, opening the mouth. Do not push down; let it drop. Raise slowly.

6. Take sitting, or standing, position. Tense the body, stiffen the fingers, stretching towards the floor, or tighten the hands into fists. Tense slowly, relax slowly.

7. Tense the throat; say "dog" harshly; relax the throat; say the same word softly. Repeat with any word.

Exercises for Resonance:

1. "Bumble Bee". - Hum "M" on three slow beats. The pupil should feel the sound high behind the nose and at the roots of the upper teeth.
2. Repeat the exercise with "N" and "NG".
3. Take the exercise with "M", changing to "N", changing to "NG". The tone should flow smoothly without a break, one strip of sound moulded in different ways.
4. Take some exercises with other vowels and final consonants.
5. "Rolling "R"". - Say "ah brrrr"; repeat. This is an invaluable exercise for breath control, stimulating the soft palate, and agility of the tongue, as well as for resonance.

Articulation Exercises:

(a) Jaw.

1. Open the mouth as wide as possible. Close slowly; open, close; open, close - five times. This limbers the muscles of the hinge of the jaw. It is also a useful relaxation exercise.
2. Relax the lower jaw and move it slowly from side to side three times; then move it slowly down, around, and up, as in chewing.

3. Open the jaw about two finger-widths and with an open throat say "ma-ba-pa." Repeat five times, keeping the throat relaxed all the time. The sounds made by a relaxed throat are very soft.

(b) The Lips.

1. Rub the tongue over the lips, wetting them. Then rub the teeth over them, biting them gently.

2. Make the lips as narrow as possible, drawing the corners as far back as you can; "narrow - relax ", etc.

3. Raise the right side of the upper lip; raise the left side, "Right-left". Repeat five times.

4. Repeat "eedee - eedoh," many times rapidly.

5. Make the lips flare outward like the mouth of a trumpet, saying the word "new" correctly. Exaggerated lip action will enable you to do this. Use a mirror.

(c) The Tongue.

Since the tongue is the most important organ of pronunciation, considerable time should be spent on tongue gymnastics.

1. Point the tongue upwards.

2. Point the tongue out and downward towards the chin.

3. Wag the tip up and down for eight counts. Begin at the right and go around; then from the left around.

4. Protrude the tongue with a groove in the middle, raising both sides.

5. Rotate the tongue around the outside of the mouth.
6. Cut the tip back to a point behind the upper teeth; "up-down", "up-down", for eight counts.
7. Press the tongue against the back of the lower teeth; "press-go, press-go", for eight counts.
8. Say "lee-lee-lee" very rapidly for a few seconds.
9. Trill "R".

Later he practised the tongue exercises on pages 82-85 .

Treatment Given to Individual Sounds.- Bruce had no difficulty with the lip sounds, p and b, when tested on the various letters of the alphabet. He was also able to pronounce the lip-teeth sounds f and v. Some of the tongue sounds gave him trouble. He could not say ch, l, r, hard g, j, z. He had no difficulty with t, d, s, and th as in this. He could say the nasal sounds m, n, ng, but not h. A number of the vowel sounds were troublesome. He could not say a as in ate, a as in air, i as in mile, i as in bird, u as in use (but he could say u as in hut). He could say ee and o as in no, and a as in cat.

The first sounds I dealt with were the tongue sounds.

1. Ch. - the boy was not able to make even an approximation of this sound. When ch occurred in a word, he either omitted it altogether or he substituted t .

He said: teh for chair
tih for chin
cah for catch
tiahn for chicken.

I showed him the correct tongue and lip position for the production of this sound. I asked him to place his tongue flat across the hard palate just above the upper gums, and then lower his tongue suddenly and use his breath. A similar sound accompanies sneezing.

As soon as he was able to say this sound, he combined it with vowels:

chah	chee	chi	choh
chay	cheh	chy	choo

Then, using a mirror, he practised the following word list:

chair	church
chest	preach
chime	couch
chin	chalk
cheek	cheer
chap	teacher
which	match

He was unable to say those words containing r, wh, i, or a as in aim. He said

choich for church
cheh for chair
wich for which
cheeoo for cheer
teachoo for teacher

I did not draw his attention to these mis-pronunciations because we had not practised the sounds r, wh, ay or i. The words chest, chin, couch, match, which contained ch and sounds which he could say, he pronounced well.

Then I gave him simple sentences to repeat:

1. Our clock chimes.
2. That chap has red cheeks.
3. I like the match which he gave me.
4. I have a cheerful teacher.
5. I like cheese very much.
6. I sat on the chair.
7. We have a china pitcher.
8. I go to church on Sunday.
9. My chin is sore.
10. My sister sat on the couch.

Bruce did not have much success saying these sentences at first because he was unable to say a number of sounds other than the new sound ch. His sentences sounded something like this:

1. Ow cwock chahms.
2. That chap 'as wed cheeks.
3. Ah wahck ah watch wich 'e gave me.
4. Ah 'ave a cheeohfoo teachoo,
5. Ah lack cheese vewy much.
6. Ah sat on ah cheh.
7. We 'ave a chahnah pitchoo.
8. Ah go to chohch on Sunday.
9. Mah chin is soh.
10. Mah sistoo sat on ah couch.

When he had finished saying the ten sentences, I told Bruce that he had pronounced them very well. I find that encouragement and praise are powerful allies

in remedial speech classes. I was satisfied in each of the above sentences if the boy pronounced ch properly. After we had finished practising other sounds l, r, i, a, he was able to read the sentences quite well.

Other drill words and sentences using the sound ch may be found on page 117-118.

2. L. - A detailed account of the proper lip and tongue placement for the formation of l is found on page 113 .

The conversation below reveals the procedure which I employed in the teaching of each new sound to Bruce. I used a similar method when I treated Mike for Foreign Accent, and Henry for Lisping. Bruce is learning the correct placement of the letter l for which he substitutes W. For like he says wike. First, I write the letter on the blackboard and say it over a number of times. I represent myself as X in the following conversation.

X. "You now know what this sound "sounds like". You also know what it "looks like" - that is, you have watched me adjust my tongue and lips for its production, and in the hand mirror you have watched yourself place the tip of your tongue behind your upper front teeth and hold it there while using your voice. Now let me see if you can produce the sound."

Bruce - (Produces a sound which is a slight modification of w.) "Was that right?"

X. - "That was close but still it wasn't quite right. Now watch my mouth closely and listen to me once more - note how the tip of my tongue is touching my gum behind my upper front teeth." (I again produce the sound l) "Now this time before you say anything be sure that the tip of your tongue appears against your upper front teeth in the hand mirror."

Bruce.- (Produces a sound which is very close to the standard sound.) "Was that right?"

X. - "Much better. Repeat that ten times, still looking in the mirror."

Bruce - "L-l-l-l-l-l----- ten times."

X. - "Now say the letter another ten times without the mirror, this time concentrate on the feel of your tongue in its new position. Remember to keep your lips stationary."

It is as necessary to the success of the treatment that the child "feel" the new sound, as it is that he "see" and "hear" it.

Bruce.-"L-l-l-l-l----- ten times."

The above conversation typifies the procedure I followed in the teaching of each of the sounds mispronounced by Bruce.

I wrote the following simple words on the blackboard, and asked the pupil to say them after me:

lane	rumble
lean	let
lime	little
lisp	call
load	bill
animal	low
simple	lie
lall	last

He pronounced them something like this:

lehn	wumble
lean	let
lahm	little
lisp	call
load	bill
animal	low
simple	leh
lall	last

If he pronounced the l correctly in the word, I proceeded to the next word. Then we practised the simple rhymes for lispers on pages 119-121.

3. R.- R proved to be the most difficult sound for Bruce to say. Every speech lesson day during the past school term we spent a few minutes practising words containing r. Even after he had learned the correct tongue movement for the sound, he still persisted in using the lip movement used in the production of ow as in how, and held his tongue stationary. He used a number of substitutions for r. They were oh,

oo, w and ow as in cow.

For rain he said wehn
For ride he said wahd
For manner he said mannow
For fire he said fehoo
For red he said wed
For rug he said wug

In all of these r substitutions, the lips move but the tip of the tongue is not used at all. To make the correct sound the back of the tongue must be lowered and the front raised. A good exercise for obtaining the sound r is to place the bent knuckle of the forefinger between the teeth and try to say z as in pleasure, taking care that the finger is underneath the tongue.

The production of r, without using the knuckle, has already been explained on pages 96 . Suitable drill words and sentences which I used may be found on page 96 , and on page 117 .

The r sound after a (as in arm) continued to be incorrectly pronounced, even when the boy could say r in combination with other sounds. He said:

ahm for arm
fahm for farm
cad for card
mock for mark
cowt for cart
cow for car
lack for lark
tuot for tart
pack for park.

This defect will rectify itself after the tongue muscles develop through constant practise of tongue gymnastics.

4. G (hard).- This sound is produced by raising the back of the tongue against the soft palate and forcing the air out suddenly and using the voice when the tongue is lowered.

He was able to pronounce this sound readily when shown the correct placement of the tongue. Then he practised g in combination with vowel sounds:

gah	gee	gi	goo
gay	geh	gi	go

Next he repeated these simple words, followed by sentences:

gas	rag
good	fig
get	bigger
gold	swagger
big	digger
dog	giggle

1. Please give me some gum.
2. I brought gas from the garage.
3. My uncle is digging for gold at Goldfields.
4. My dog stole my figs.
5. The girl giggled in school.
6. Sister Sue has a rag doll.
7. I am in Grade II.

5. J.- The correct tongue and lip position for j is to place the tip of the tongue against the upper gum behind the front teeth as for d, then quickly run into zh by making the front teeth almost meet, draw back the tongue

while using the voice. This will produce the sound of j. Bruce was unable to produce the sound in this way, so I asked him to place his tongue flat across the hard palate just above the upper gums, then drop the tongue suddenly and use his voice. This he did and produced the sound easily.

He practised j in combination with various vowel sounds:

jay	jee	joo
jaw	jeh	joh

Word lists we used are:

June	Jo
joke	college
just	jam
strange	jug
jaw	Jack
jump	Jill

Then he repeated simple sentences:

1. Jack and Jill went up the hill.
2. It was no joke when his jaw broke.
3. I have a jug of water and some bread and jam.
4. When I grow up I'm going to college.
5. A stranger just came to our door.
6. We begin holidays the end of June.
7. I have a brother called Jo.
8. Jerry is my best pal.

6. Z.- This sound is made by making your front teeth almost meet and then holding the tip of your tongue up just behind the upper front teeth without touching the palate.

Bruce practised the new sound in combination with the various vowel sounds and by repeating the following words:

zone	prize	doze
zinc	gaze	gaze
lizard	drizzle	prize

Then he studied and repeated these sentences:

1. I saw a zebra at the zoo.
2. There are many houses on our street.
3. My brother won a prize for racing.
4. One boy got zero on his arithmetic test.
5. Sometimes I gaze at the stars.
6. Mother found a lizard in the back yard.
7. There was a drizzle of rain this afternoon.
8. Father dozes when he reads the paper.

7. H.- The next sound I dealt with was the nasal sound h. In the formation of this consonant only the breath is used. Open your mouth, not too wide, allowing your tongue to lie on the floor or bottom of your mouth; then, while holding that position, blow out your breath. Do it and you will produce the sound of h.

After Bruce was able to produce the sound he combined it with vowel sounds:

hah	hoh	hee	he
hay	hoo	high	

Later he repeated simple sentences, which I constructed. These are:

1. I live in a high house.
2. He held his hat in his hand.
3. She hummed a hymn for him.
4. Mother cooked ham for dinner.
5. The minister gave a sermon on Heaven and Hell.
6. No harm will come to him.
7. The heat of the day was great.
8. We live up in the hall at recess.
9. My head is hot.
10. We played hunt the thimble at the party.

Then we spent considerable time on the proper production of the vowel sounds with which Bruce found difficulty. We began with a as in ate.

8. A.- This sound is produced by raising your tongue midway in your mouth so that the front of it is directed frontwards. Hold the tongue there while using your voice. The lips are well apart and the teeth are well separated in this production. The sides of the tongue touch lightly the back upper teeth.

He practised the sound by carefully repeating the following words:

face	safe
late	game
race	make
play	pay
baby	gate
mate	lake
rage	ate
made	cake
stay	take
name	waste

Simple sentences I used are:

1. Sam was late for the race.
2. Her name is Maimie.
3. The baby played with a basket of grapes.
4. His face was red with rage.
5. The tree makes shade for us to sit in.
6. I play with a tame cat named Tabby.
7. We had to pay at the gate.
8. Father was late for supper.
9. Mother framed the photo of James.
10. I bought tape and lace at the store.

9. I, (as in mile). - To produce this sound, hold the lips and teeth apart. Place the tip of the tongue against the lower gums and raise the body of the tongue near the roof of the mouth. The production of i gave Bruce almost as much difficulty as r. He was unable to say it. I tried another method of production. This sound is a diphthong, being composed of the two sounds, a (ask) and i (it). He was able to say both of these letters and after some time he was able to fuse them together quickly.

Then he repeated these words:

kind	high	smile	sight
kite	night	pride	spite
like	write	bite	fight
while	line	idea	brine
find	rice	wipe	trial
mile	dine	slice	might
ice	dime	price	time
nine	dice	spice	ripe

Sentences he practised are:

1. Father gave me a dime to fix my kite.
2. I might get to school on time if I run.
3. The bell chimes at nine o'clock.
4. I write on white paper.
5. I ate a slice of bread and spice cake.
6. The boy fights in spite of himself.
7. The sight of his smile filled me with pride.
8. I skated a mile on the ice.
9. The dice was loaded.
10. A high wind blew last night.

10. U,(as in use).- This sound is a diphthong, being composed of two sounds - e (me) and (oo)(food). Bruce was able to make these two sounds separately and after practice with the mirror he fused them together quickly and obtained a good u sound.

Words he practised are:

duty	duke	fume
use	mule	cute
mute	useful	amuse
blue	fuse	duel

Sentences I used next are:

1. Sometimes I have to amuse the baby.
2. Mother says it is my duty.
3. I have a new blue sweater.
4. We have a spare fuse at home.
5. Some farmers use mules instead of horses.
6. The duke uses two palaces.

A further peculiarity of this case was the difficulty the child had in saying two consonants after each other. After we had completed the above series of exercises, he could say pay and lay, but not play, kick and wick, but not quick, bow and low,

but not blow, sing and ting, but not sting, bing and ring, but not bring.

A good deal of practice was necessary to overcome this difficulty. When he practised play I had him hold l for some time and while he was saying it, bring his lips together for the p without taking the tip of his tongue from the teeth ridge.

In quick I asked him to say the k sound and, while holding this, round the lips for the w. In this way he managed to get the two sounds almost simultaneously.

The last month Bruce recited a number of nursery rhymes with which he was already familiar. Some of these were: Little Boy Blue, Little Miss Muffet, Hot Cross Buns, Little Jack Horner.

Then we spent some time on the Drill Rhymes on page119for correcting baby talk. Other simple rhymes he practised are:

Christmas Bells.

Ding dong dong ding!
In every steeple, bells swing.
Ding dong ding dong!
Bells swing all the morning long.
Ding dong boom!
Ding dong boom!

The Shop Bell.

The bell-spring swings
And the small bell rings
With a tingaling, tingaling,
    Tingalingoling.

Here's someone who is willing
To spend a silver shilling
So come along. Dingadong!
    Tingalingaling!

Windy Nights.

Rumbling in the chimneys,
  Rattling at the doors,
Round the roofs and round the roads
  The rude wind roars,
Raging through the darkness
  Raving through the trees,
Racing off again across
  The great grey seas.

Thick and Thin.

I can think of six thin things,
Six thin things! Can you?
Yes. I can think of six thin things,
And of six thick things, too.

Blue Boy.

"How do you do, Boy Blue,
  How do you do?
Have you a new blue suit?"
  "Yes I have two.
I spilled some fruit on my old blue suit
And that is why I have two new suits.

Slow Clock and Quick Clock.

Slowly ticks the big clock;
Tick tock, tick tock!
But cuckoo clock ticks double quick
Ticka-tocka-ticka-tocka
Ticka-tocka
Tick.

I say Aw.

I say Aw
When I yawn.
Aw! - Aw!
How I yawn!
Mouth is open
Lips are round:
That makes aw
A yawning sound.

Lucy Locket.

Lucy Locket
Lost her pocket,
Kitty Fisher
Found it;
Nothing in it,
Nothing in it,
Just the binding
Round it.

At the end of the school term the teacher and I noticed considerable improvement in Bruce's speech condition. I attribute this improvement to a number of causes. Apart from the individual attention he has had in speech classes, I think maturation may have been partly responsible. Each day his mother and his teacher drilled him on words and sentences outlined in the preceding several pages. This extra drill helped to draw Bruce's attention to his speech processes

and make him conscious of pronunciation. The sounds which persisted in giving Bruce trouble are r, i and l. There is reason to suppose that as he grows older and his tongue muscles develop, these sounds will come easier. Weakness seems to be more in the motor center than in the auditing center. From my practical experience with speech defectives (which has been quite limited), I have found that malformation accounts for a very small proportion of speech defects. Most cases seem to be due to bad habits set up in childhood and not corrected.

(ii) FOREIGN ACCENT

Causes and Prevalence

Foreign accent is the use of consonants, vowels and tone patterns of foreign languages in speech. People who speak with an accent usually have acquired whatever English they know by imitation. This is especially true of those who learn English after the elementary school age.

Foreigners usually learn to speak in word combinations, not in syllables. This often results in make-shift combinations because of the rapidity of average speech. Long familiarity with a language is necessary before the ear can distinguish vowels and consonants. Foreign accent is very common among children in public schools. Children brought up in a foreign atmosphere usually speak or hear nothing but a foreign language outside of school.

Three Correction Problems

There are three basic problems in correcting foreign accent difficulties. There are:

(1) The consonantal difficulty caused by a lack of tongue control.

(2) The vowel difficulty caused by a lack of ear training, and

(3) Intonation caused by an inability to hear and use characteristic tone patterns.

1. Consonant Problems.- To the average foreigner, p,b, w,v, and f present few difficulties. Foreigners whose native language does not include the w will tend to substitute another sound, usually v; those whose native tongue does not include the v will tend to substitute the w. Some make surds of sonants. When this is the case, have becomes haf; by golly becomes py kolly, etc. By checking the articulation through the use of a mirror and through tests for sonant sounds, one can eliminate these difficulties.

Of special importance are the alveolar consonants, t, d, s, z, z, n, l and r. These nine sounds and their many combinations have been treated in this thesis. They all owe their production to a special activity of the front of the tongue. Generally, the main source of difficulty with the articulation of the alviolar sounds is a low tongue position.

The articulation of foreigners usually reveals a sluggish tongue movement. This tongue weakness is due mainly to a lack of certain muscular controls in speaking the native language and may be overcome by practising tongue gymnastics. For example, in some

dialects (e.g. Yiddish) little or no front lingual activity is required. Thus the tip of the tongue is usually fixed in the bottom of the lower jaw and scarcely moves from this position during speech. In English all cases of foreign accent reveal a low tongue tendency and a general lack of independent lingual activity. The foreigner will find it advisable to develop tongue flexibility as a preparation for further drill on the consonants. See pages 82-85 and 130 .

In addition to the above drills for correcting sluggish tongue movement, these have been found helpful:

Drill I. Tongue Compression for Pronouncing s,z,sh,zh:

Round the lips as if about to pronounce the vowel oo as in noon. With the lips firmly puckered, thrust the tongue through the aperture thus formed so as to create a u-shaped longitudinal groove along the entire length of the tongue muscle. (If necessary use the blunt end of a match stick to help shape the u groove in the tongue.)

While maintaining the groove thus formed, slowly withdraw the tongue and move it upwards in the mouth

until the sides of the tongue groove are firmly pressed against the palate just inside the molars. In its final position, the tip of the tonge should always rest firmly against the alseoli or gum ridge.

Repeat this exercise frequently or until the tongue groove can be made easily and "felt" and considerable upward pressure exerted without cramp or fatigue.

Drill II. Suction Drill:

(a) Hold the tongue against the roof of the mouth in the position described in Drill I.

(b) Now create a suction with the breath so as to cause the entire upper surface of the tongue to cleave to the hard palate without moving the tongue and without making any sound.

(c) Release suddenly. (A clicking sound will result)

A slow and intense pressure of the tongue during the exercise will greatly strengthen the muscles supporting this position.

Drill III. Breath Compression:

(a) Repeat (a) in Drill II.

(b) Now try to sense an air groove between the upper surface of the tongue and the roof of the mouth and fill this groove with breath without allowing any

of it to escape.

(c) Gradually increase the amount of breath in this hollow or groove until the pressure is just at the point of bursting out past the resistance of the edges of the tongue. But stop as soon as the straining point is reached and do not allow any breath to escape. Keep the jaws open and relaxed during the exercise.

Drill IV. T release: While employing the technique described in the breath compression of Drill III, gradually increase the upward pressure of the tongue and at the moment of greatest tension suddenly release a short puff of breath on a whispered T sound. Carefully observe the tip-gums contact until the moment of release, and do not allow the sides of the tongue to move from their position against the palate during breath emission. Now practise sneezing with the T release.

Drill V. "S" enunciation: Practise reading lists of words and sentences containing s sounds. (See pages 87 and 88. Produce the t release according to the technique described in Drill IV whenever an s occurs. Thus a synthetic short sibilant quality will be substituted for a sustained finished s effect. This synthetic stage will last until the muscles involved

in the act of sibilation become strengthened, and the ear grows accustomed to a sharpened, hissing quality. Following this drill, reading may be continued with the t release substitution described above, except that the t attack now may be placed mentally before each s without audibly sounding the t. The sustained hiss or s part of this exercise will be sounded clearly.

Drill VI.

(a) Hold the palm of the hand two inches in front of the lips.

(b) Store the breath in the cheeks with a tightly closed mouth and with gradually increasing pressure.

(c) Release the breath suddenly on a whispered sound of p. Do not part the lips when emitting the p sound but force the breath between tightly compressed lips.

(d) Repeat this action, this time holding the mouth open and using the tongue as a check valve for the breath stream in place of the lips. Now release the compressed breath on the whispered sound of t, while the sides of the tongue remain firmly pressed against the roof of the mouth. Do not flap the tongue.

Try to feel the breath pressure against the palm of the hand when the t sound is released.

Repeat this drill often or until the control of forward breath release has become a thoroughly familiar process. The alternation of p and t sounds should be practised for several minutes as a warming up exercise before attempting any of the prescribed s enunciations.

The Low S: The "low s" is one of the most common forms of sigmatism and is a peculiarity of the speech of foreigners who are learning to speak English. The defect occurs when the tip of the tongue is lowered to the incisor teeth or to the lower teeth. When the low s is made, the result is a blurred sound instead of the customary distinct hissing sound. The problem of correcting a low s is mainly one of correcting a low tongue position.

Exercise for Correcting the Low S: Read the following lists of words. Make certain that the tongue is adjusted. Use a mirror.

Words with Final ts

hats	lights
boats	sets
cats	lots
teats	eats
beets	dates
hets	pats
bites	

Words with Medial ts.

itself	hotsy-totsy
draughtsman	Pittsburgh
boatsman	jetsam
Trotsky	flotsam
footsore	Matsy
Watson	whatsoever
Kitson	

Word Combinations with t and s.

wet streets	let's see
hot stove	fat sparrow
might slip	light sandal
not so	hat store
heat some	net shipped
fight sanely	what city
hot soup	

Drill VII: Read aloud the following sentences. Use a mirror and emphasize the correct production of s.

1. Abundance consists not alone in material possession but in uncovetous spirit. - Seldon

2. A mother's love, in a degree, sanctifies the most worthless offspring. - Ballou.

3. I have not so great a struggle with my vices, great and numerous as they are, as I have with my impatience. - Calvin.

4. Abstinence is the surety of temperance. - Plato.

5. O brave poets! Keep back nothing, nor mix falsehood with the whole; speak the truth in worthy song from earnest soul; hold truest truth in fairest beauty. - Elizabeth Barrett.

6. The sun never sets on the immense Empire of Charles V. - Scott.

7. The silent countenance often speaks. - Ovid.

8. Consider in silence whatever anyone says: speech both conceals and reveals the inner soul of man. - Cato.

9. Patience is a necessary ingredient of genius. - Emerson.

10. Or sweetest Shakespeare, Fancy's child. - Milton.

II. Vowel Problems.- All vowel distortions are traceable to a lack of ear training. For the correction of foreign accent it is advisable for the student to identify first and memorize, with the aid of the instructor, the hearing or sounding effect of certain key words, each containing a typical English vowel, and then to study the pronunciation of familiar words with reference to the key-sound vowels thus memorized. This is largely a vocabulary practice and serves the triple purpose of training the ear, of improving articulation, and of extending one's familiarity with new words and phrases.

III. Intonation.- Tone patterns are elements in speech which add meaning and mood to words. Tone patterns help to stimulate in the listener an emotional and intellectual response. A tone pattern cannot be learned until a keen and critical sense of hearing is developed.

The student with a foreign accent is reminded that listening to good conversational English and participating in it are most essential. Phonograph records of model speech, radio lectures and announcements, and intensive study of the Phonetic alphabet, with frequent practice in transcribing spoken English are recommended as excellent devices to supplement the

drills.

Consonant production is principally based upon tongue habits, while vowel production is based upon ear or hearing habits. Tone patterns are a result of habits of meaning comprehension. The mastery of these three sets of habits provides a correction for foreign accent.

Correction of Foreign Accent

When dealing with foreign accent, a diagnosis to discover errors in production of sounds should be made as with other speech defects. When the teacher has discovered the difficulties, he should proceed to eliminate them one at a time.

The first step in the correction of foreign accent is to establish correct auditory verbal images of the vowel sounds. The teacher should repeat, several times, and very distinctly, the vowel sound to be taught. When the student thinks that he has heard it correctly, let him produce it once. Then the teacher should pronounce it again and the student repeat. Continue this until the student can produce the vowel without assistance.

When the vowel has been taught, combine it with the consonants with which the foreigner has little difficulty, as for example, m, b, p. Then build up

simple words around these consonants. The elimination of foreign accent is principally a correction of the articulation of the individual sounds rather than the pronunciation of the entire word.

Testing for Foreign Articulation of the English Sounds.-

Have the students pronounce the words that exemplify the vowel sounds in the following list. The vowels that cause a foreigner most difficulty are a, o, i, a, e, u, oo, ow (as in cow), a (ah) as in arm.

a(ah)	as in arm	i	as in mit
a	as in late	o	as in not
e	as in me	u	as in up
a(aw)	as in all	a	as in what
o	as in no	e	as in there
oo	as in noon	e(withr)	as in her
i(ahee)	as in night	oo	as in good
u(eeoo)	as in mute	ou(ah oo)	as in South
a	as in cat	ow(ah oo)	as in cow
e	as in pet	oi(ow ee)	as in oil
u(00)	as in rude	y	as in fly
u	as in pull	y	as in nymph

The following are some of the consonants with which the foreigner has difficulty.

1. Substitution of v or f for w and the reverse. The difficulty here lies in the literal translation. When teaching the production of v or f, the student should bite the outer surface of his lower lip, and when producing w his lips should be pushed forward into a pucker.

2. Substitution of sh for s, as shpelling for spelling. Here again the fault is due to a wrong position of the speech organs. The lips should be pushed forward in an exaggerated manner for the sh and drawn back for the s.

3. Substitution of d or t for th, as dis for this: in this case the kinaesthetic impression is weak. Protruding the tip of the tongue between the teeth and biting it lightly while producing th will make a deeper and more kinaesthetic impression.

4. Substitution of m for w, as mit for with: The lips should protrude and the sound should come through the mouth and not through the nose. Holding the nose when producing this sound will aid materially.

5. Substitution of z for th (Latin races), as zee for the. Protruding the tongue between the teeth when producing th will correct this error.

6. Such words as sing and ring are often pronounced singk and ringt. This is caused by a relaxing of the rear muscles of the tongue before the ng sound is completed. The use of the mirror aids in the correct production of ng.

7. Omission of h is another common error. The easiest way to correct this bad habit is to tell the student to blow out his vowel sounds; for instance, first produce

a, then blow it out and you get ha. Then take combination as ave, blow it out and you get have.

Many other errors are found in consonant production, but if definite positions for all sounds (as given in the lessons throughout this thesis) are taught and a systematic effort to improve is made, the difficulties can be overcome.

The Z Substitution:

A less frequent defect of s articulation that occurs in the speech of some foreigners is the substitution of z for s. In this case the vocal bands are vibrated during the production of s and a z results. The correction of this difficulty is relatively easy. The correct placement of the lips and tongue for the production of z is to make the front teeth almost meet. Hold the tip of the tongue up just behind the upper front teeth without touching the palate. Use the voice and make a buzzing noise. Do this and you will produce the sound z. Then explain thecorrect production of s. Instead of using the voice with the above mouth formation, use a soft hissing sound and the sound s will be produced. Then practise phonetic exercises given below in articulating and differentiating z and s sounds.

Drill I:

Initial z	Medial z	Final z
czar	razor	maze
zoo	prizes	blaze
zone	muzzle	phase
zero	dazzle	daze
zest	ozone	prize
zebra	museum	gaze
zip	result	cries
zigzag	lazy	phrase
zanzibar	greasy	trees
zeal	Ezra	graze

Since the correct hearing of the sound is the fundamental basis of all speech training, exercises for ear-training form an important part of each lesson. It is natural that if the foreigner's own language contains a sound which is similar to an English sound, that he will substitute that old sound in speaking the new language. Here is a list of the commonest mispronunciations of sounds due to the influence of a non-English mother tongue.

Italians and Spaniards frequently change:

pul	for pool
bort	for bought
hat	for hot
tait	for tight
tri	for three
norz	for nose
rorz	for rose
paip	for pipe

Germanic peoples are apt to change:

tin	for thin
dat	for that
wo uz	for rose

pid for bead
vaz for was
wanderful for wonderful

French people are apt to change:

min for mean
pul for pool
mert for met
had for hard
boed for bird
kerik for cake

Practice Word List for Foreign Students: Practise these lists first vertically and then horizonatlly in pairs.

a.	b.	c.	d.
merry	marry	tough	thought
three	tree	deaf	leaf
finger	singer	tent	dent
wit	with	red	rose
cats	dogs	single	longer
sheep	ship	singe	crinkle
bit	but	tomato	potato
bird	bud	banquet	bouquet
come	calm	low	bow
thick	this	route	rout
world	worth	question	vacation
foot	put	house	mice
boot	hoof	didn't	crush
though	through	because	granite
bough	cough	order	mountain

Stress, Inflection and Pause Mannerisms:

Drill I: Read the following lists of words, stressing the indicated syllables by increasing the vocal force to about twice normal. Start each word on a high pitch level and sharply drop the pitch downward after each syllable in this list. Avoid double (upward

and downward, or vice versa) inflections on any one syllable.

In each case stress falls on the vowel part of the syllable. Consult the dictionary when necessary.

Words with First Syllable Stressed

final	antiquated	indicate	drowning
jovial	triumph	gondola	applicable
eczema	conference	combatant	chattle
champion	attribute	ancestors	painfully
formidable	compliment	armistice	admiral
advert	jocund	relative	cemetary
literary	bronchial	working	industry
positively	opposite	jocular	grievous
favorite	requisite	reputable	helpful
excellent	reasonable	explicable	theatre

Drill II: Read the second syllable of each word in a higher pitch level than the other syllables.

Words with the Second Syllable Stressed

umbrella	affianced	prerequisite	alarmed
defeat	superb	museum	resources
robust	nocturnal	address	municipal
transact	curator	horizon	hotel
idea	eject	annihilate	cement
pretense	research	biology	professor
reverse	executive	finance	autumnal
condolence	paternal	maternal	polygamy
estate	acoustic	technique	provincial
romance	amenity	profound	scenario

Drill III: Use a prominent and contrasting pitch level for each third syllable, i.e. stress the vowel sound in each third syllable in the following list:

Words with the Third Syllable Stressed.

engineer	scientific	philosophical
singularity	sacrilegious	reproduction
parsimonious	esoteric	problematical
reputation	congregation	similarity
acrimonious	manufacture	ecohomical
disobedient	masquerader	antiquarian
instantaneous	demarcation	efficacious
inurbanity	multitudinous	superfluity

Drill IV: Stress plays an important part in making the meaning of a sentence or expression clear. The meaning of the following questions is not wholly clear unless a major stress is placed on each of the indicated syllables. The stress is applied by suddenly changing the pitch (either higher or lower) or force (i.e. greater or less) of voice, or both pitch and force, on each underlined syllable. Note that stress especially affects the vowel in each syllable.

Read aloud the following variants of the question, applying exaggerated stress to the underlined syllable:

1. Are you going to ride to the country to-day? No.
2. Are you going to ride to the country today? (No, my sister is.)
3. Are you going to ride to the country to-day? (no, (I'm going to walk)
4. Are you going to ride to the country to-day? (No, to the city.)
5. Are you going to ride to the country to-day? (No, to-morrow)

Construct similar questions and sentences and

read them aloud. Study the effect of stress upon meaning.

Practical Work.

Mike R-----, of Hungarian parentage, is twelve years of age and in grade III. Intelligence tests reveal that he is mentally backward. He has an I.Q. of 74. His teacher says that he will not answer questions and is equally quiet on the playground. I learned that he had been teased for his poor English by the boys in his class. They call him a "bo-hunk". He is very sensitive about his speech condition, and has developed into a shy, nervous lad. He is slow to join in group games and has no chums. His condition is aggravated by the attitude of his classmates and by the fact that he hears English only at school. His physical appearance is pathetic. He has a very decided cast in one eye and squints with the other. His teeth are malformed. He is not particular about personal cleanliness. He is ill-clad and undernourished. Having been born in the Old Country, he came to Canada with his parents and four siblings seven years ago.

During the first few lessons, I talked to Mike about school and outside activities. He was reluctant to speak, answering in monosyllables. I could not

get him interested in any topic. His reticence was probably due to lack of self-confidence when speaking.

Then I gave him the test suggested on page 158 and found that there were a number of letters which he could not pronounce. Some of these are:

wh as in what
w as in watt
th as in thin
r as in roar
ng as in sung
i as in will
a as in bare

The lad found difficulty in mastering these sounds and consequently had a tendency to replace them with acoustically similar sounds contained in his own language. Mike substituted:

t	as in town	for th	as in thin
d	as in down	for th	as in then
e	as in weal	for i	as in will
a	as in lace	for a	as in amid
ink	as in sink	for ing	as in sing

He also substituted a uvular trill for the English consonant r as in roar.

For "There is nothing wrong about it", Mike says, "Der-r iss nossingk r-r-rong aybout eet." For "We neverhave fair weather here", he says, "Ve nevair-r-r haf fer-r vedder-r her-r." For, "We will fight for freedom and win," he says, "Ve vill fight for-r-r fr-reedom aynd veen." The boy experienced great difficulty with the short vowels of the English

language. For example, he said hees for his and nevair-r-r for never.

Treatment.- When Mike replaced an unfamiliar sound unit of English with a familiar sound unit of his native tongue, the problem of speech correction thus presented was by no means a simple one, In all variations of sound, I tried to make the lad conscious of the acoustic difference between the standard sound that he should produce and the defective sound that he did produce. The average speech defective never becomes conscious of his defects until he is made to hear them. When Mike mispronounced a sound, I asked him to listen critically while I produced first the standard then the substituted sound. I continued this exercise until he was able to detect a clean-cut acoustic distinction between the two. Trial-and-error drill should enable the student to achieve in a relatively short time the muscular control necessary for the production of the correct sound. If this drill fails to achieve results within a reasonable period, the following supplementary measures should be employed:

1. Have the patient perform lip, tongue and palate exercises calculated to give these organs increased

flexibility and greater capacity to adjust themselves in new positions.

2. Employ appropriate mechanical interventions. If the child persists in substituting t as in town for th as in thin, hold the blade of his tongue forcibly down in its proper position by means of a wire form or a tooth pick.

Before beginning remedial work on individual sounds, Mike practised exercises for the muscles of the tongue outlined on pages 82-85 . Throughout the eight months' period during which I worked with him, he spent the first ten minutes of each speech class on tongue gymnastics for the improvement of the sluggish tongue.

We began a correction of the vowel sounds first.

1. He substituted ee for i, and said:

eet for it
beek for big
seet for sit
seek for sick

(a) I explained that the difference between the two sounds is that when producing e (me), you direct and press your tongue up close to the hard palate in a tensed condition while for i (it), the front of your tongue is directed toward the front of the mouth in a relaxed condition.

(b) To make i (it), raise your tongue high, directing the front of it towards the front of your mouth, hold your tongue in that position while using your voice. I said the two sounds many times for him so that the correct auditory imagery for the sound i could be learned. Then he pronounced the two sounds, using a mirror.

(c) He repeated the following syllables, noting the change of the position of the tongue on each syllable.

eed - id		een - in	
eef - if		eep - ip	
eeg - ig		ees - is	
eek - ik		eet - it	
eel - il		eev - iv	
eem - im		eez - iz	

(d) Next he repeated the following words after me; then he read them aloud:

lid	lift	big	sick
bit	bill	will	limb
ill	win	tip	whip
live	fit	sit	lit
sin	river	lip	stick

Then I made up simple sentences using the words in the lists and asked him to repeat them. Three speech lessons were required before Mike was able to pronounce i and say simple words containing the letter. Less time is necessary for a normal pupil.

2. He substituted a as in cat for e as in men, and said

lat for let
tan for ten
pan for pen

(a) The difference between these sounds is that when you produce a (fat), the tip of the tongue rests against the lower gums, while for e (met), the tip of the tongue is higher, more in the middle position. Open the mouth wide and use a mirror to distinguish between the two positions.

(b) To make e(met), raise your tongue slightly in your mouth so that the front of it is directed frontwards, then hold your tongue partly relaxed in that position while you use your voice.

(c) Repeat the following syllables:

ad - ed	ak - ek	an - en	at - et
af - ef	al - el	ap - ep	av - ev
ag - eg	am - em	as - es	az - ez

(d) Repeat the following words, making sure that the tip of the tongue is in mid-position when producing the e:

led	left	let	neck
tell	empty	dent	fence
slept	best	dress	less
nest	wet	well	step
egg	beg	went	red

3. He substituted a as in fate for e as in let.

He said nevair-r-r for never
mair-r-r y for merry
hair-r-r-r for her

(a) The difference between e (met), and a (fate) is that when producing e, your tongue is relaxed and raised slightly in your mouth, while for a your tongue is held rigid and raised midway in your mouth.

(b) To make e (met), raise your tongue slightly in your mouth, so that the front of it is directed frontwards, then hold your tongue partly relaxed in that position while using your voice.

(c) Repeat the following syllables, being careful to note the change in the position of the tongue on each syllable.

ed - ade	ek - ake	en - ane	et - ate
ef - afe	el - ale	ep - ape	ev - ave
eg - age	em - ame	es - ase	ez - aze

(d) Repeat the list of words for e (men) at the bottom of page 170 .

4. He substituted e as in me for y or i as in it.

He said faree for very
anee for any
peetee for pity

(a) The difference between these two sounds lies in the fact that when producing e (me), your tongue is held rigidly and pressed close to the palate and the lips wide, while for i (it) the tongue is held relaxed

and is directed toward the front of your mouth.

(b) To make i (it), raise your tongue high, directing the front of it towards the front of your mouth, hold your tongue relaxed in that position while using your voice.

(c) Repeat the following syllables, being careful to change the position of the tongue and lips on each syllable:

ed - id	ek - ik	en - in	et - it
ef - if	el - il	ep - ip	ev - iv
eg - ig	em - im	es - is	ez - iz

(d) Repeat the following words, being careful not to stress the final letter y:

hurry	fairy	lily	hilly
worry	mercy	very	every
lively	truly	merry	celery
blowy	glassy	gaily	fully
empty	breezy	pretty	pity

5. He substituted o as in cot for u as in us. He said:

op	for up
cot	for cut
shot	for shut

(a) The difference between these two sounds is that when you produce o (not) your tongue is raised midway in the mouth, the back of it being raised toward the roof of the mouth with the lips slightly rounded, while for u (cup) the tongue is also raised midway in the mouth, but the back of it is raised only partially backwards and the lips are slightly wide.

(b) To make u (cup) raise your tongue midway in your mouth so that the back of it is just partly raised towards the roof, not extending fully back but allowing the point to touch the lower gum, then hold it relaxed and the lips slightly wide while using your voice. This will produce u.

(c) Repeat the following syllables. Note the position of the tongue and lips when saying each syllable:

od - ud	ok - uk	on - unm	ot - ut
of - uf	ol - ul	op - up	ov - uv
og - ug	om - um	os - us	oz - uz

(d) Repeat the following words. Make sure that the back of the tongue is raised halfback, allowing the point to touch the lower gums and the lips slightly wide when producing the u:

mud	cuff	mug	duck
dull	sun	sum	cup
must	but	buzz	brush
bluff	blunt	crust	fund
cut	shut	pump	cunning

We then began remedial work on the Consonants, which Mike mispronounced.

6. He substituted v for w. He said:

vall for well
vide for wide
veesh for wish

(a) The difference between these two sounds is that when you produce v, the lower lip is under the upper teeth, while for w the lips are rounded as if about to whistle.

(b) To make w, purse or round your lips as if about to whistle, then send out your voice while forcibly separating your lips. Mike still was unable to make the proper sound, so I asked him to blow out his breath as if he were trying to cool something, and then to use his voice at the same time. The sound he obtained was w.

(c) Repeat the following syllables, being careful to note the change of the position of your lips on each syllable:

va - wa	vo - wo	voy - woy
ve - we	voo -woo	vair - wair
vi - wi	vaw -waw	vow - wow

(d) Repeat the following words, making sure to round the lips when producing the consonant w:

was	wear	wide	winter
wall	wise	wish	wadding
wade	went	will	wife
water	west	work	woman
worse	well	wind	want

7. He substituted t for d. He said:

dit for did
colt for cold
dattee for daddy

(a) The difference between these two sounds is that when you produce d you use your voice, while for t only the breath is used.

(b) To make d place the tip of your tongue against the upper gum behind the front teeth, then suddenly drop it and use your voice. Mike was not able to make the correct sound, so I asked him to put the tip of his tongue on his upper lip, and with a tooth pick I pushed the tongue up into the mouth, so that the tip rested on the gum tight behind the upper front teeth, and then asked him to drop his tongue suddenly and to use his voice at the same time. The sound d was then made.

(c) Repeat the following syllables:

da - ta	do - to	doy - toy
de - te	doo - too	dair- tair
di - ti	daw - taw	dow - tow

(d) Repeat the following words:

fed	cold	Fred
red	did	said
led	shed	bed
dread	sled	speed

8. He added a trill to the r. He said:

r-r-r-rabbit
ver-r-r-ry
r-r-oar-r-r-r

(a) To make r, direct the tip of your tongue upwards to the upper gum behind the front teeth but do not touch the palate. Hold the position while using your breath. You will then say r.

(b) Repeat the following words, being careful not to roll or trill the r:

ribbon	arrow	read	Irish
robber	sorrow	rare	curry
rabbit	mirror	romp	story
rare	marry	rude	Harry
rice	merry	root	furry
ride	Jerry	rude	err
room	carry	rubber	arrest
round	worry	radish	furry

(c) Other suitable practice lists may be found on page 96 and page 117, and simple sentences containing the r sound are given on pages 97 and 117 .

9. He added k or g to ng. He said:

nossingk for nothing
swingk for swing
songg for song

(a) To make ng, press the back of the tongue up against the palate and hold it there while sending your voice through your nose.

(b) Repeat the following words, making sure that you hold your tongue in position (not dropping it),

until all sound has ceased for ng:

bring	thing	swinging	flinging
sung	sing	morning	running
bang	ring	ringing	singing
string	hang	bringing	writing
song	swing	banging	winging

10. He substituted f for v, saying:

fife	for five
fer-r-ry	for very
haf	for have

(a) The difference in these two sounds is that f is a breath sound, while v is a voiced sound.

(b) To make v place your lower lip against the edge of your upper front teeth, then send out your voice softly over your lip. Mike still could not make the proper v sound so I asked him to bite the middle of his lower lip, easy not too hard, and then to send his voice out over his lip. He felt the vibrations of his voice on his lower lip and made the sound v.

(c) He repeated the following syllables, and noted the change from the breath to the voice on each syllable:

fa - va	fo - vo	foy - voy
fe - ve	foo- voo	fair- vair
fi - vi	faw- vaw	fow - vow

(d) Repeat the following words, making sure to use the voice when producing the consonant v:

very	vest	vine	vote
vale	vile	volt	velvet
vamp	vim	vapor	vinegar
van	vent	vast	valley
vice	valve	visit	vigor

11. He substituted d for th. He said:

dis for this
wid for with
dot for that

(a) The difference between these two sounds lies in the fact that when producing d the tip of the tongue is against the upper gum behind the upper front teeth, while for th the tip of the tongue is slightly against the edge of the upper teeth.

(b) To make th place the tip of your tongue slightly against the edge of your upper teeth, and while holding that position send out your voice. Mike found the production of th easier when I held a toothpick in front of his lips. He touched it with his tongue while he sent out his voice.

(c) Repeat the following syllables:

da - tha	do - tho	doy - thoy
de - the	doo - thoo	dair - thair
di - thi	daw - thaw	dow - thow

(d) Repeat the following words, making sure to place the tip of the tongue slightly against the edge of the upper teeth when producing the consonant th:

this	the	thus	with
that	them	thine	bathe
these	there	though	feather
those	then	thy	leather
they	than	breathe	clothe

(e) Practise the lists of words suggested on page 92 and at the bottom of page 112 .

In the preceding eleven major substitution exercises upon which we drilled, Mike used a mirror to get the correct positions of mouth, lips and tongue in the production of the new sounds. I repeated many times the old and the new sound in each substitution exercise, so that he could form a correct auditory image of the new sound. Vowels, especially, should be taught through the auditory sense. I found a tooth pick of invaluable aid in the formation of difficult sounds. After Mike had practised the syllables and words I wrote a number of simple sentences on the blackboard, using the words in the (d) part of each exercise. He underlined the sound which he had formerly mispronounced. Then he studied the sentences, and read them aloud before we proceeded to the next large division of the remedial work.

I felt during the year that Mike progressed slowly. Often I could scarcely notice improvement from day to day, even though I reviewed the last day's lesson at the beginning of each speech period. Speech correction

is a slow laborious process under the most ideal circumstances. The teacher must be patient and sympathetic. Progress was especially slow in Mike's case because his mental ability was much below average. He disliked school and had no interest in improving his spoken language.

MINOR SPEECH DEFECTS

(iii) MUFFLED OR INDISTINCT SPEECH

Causes

Indistinct speech may be caused by an organic abnormality such as cleft palate or tongue tie. If this be the case, consult a physician. A simple operation will remedy the cause of the difficulty. If there is nothing wrong with the formation of the tongue, lips or teeth, this indistinctness is probably caused by sluggish action of the articulatory organs. Perhaps the upper lip remains immobile throughout the entire speech. Maybe the patient is not relaxing his tongue tip enough to produce the proper articulations of the organs. Some people try to speak through clenched teeth or a rigid jaw. If the person is not suffering from an organic disability then he can proceed to remedy his speech defect by means of simple exercises.

Exercises for Relieving Tension.

1. Drop your head forward on your chest. Let it hang until it seems to pull the body down with its own weight. Dangle the arms loosely. Without bending your knees, allow your head to descend toward the floor. When your relaxed fingers touch the floor without the slightest stretching, resume an upright

position. Repeat this relaxation exercise several times. Be sure that you are slumping, not stretching to the floor. This is sometimes called the "rag doll" exercise.

2. Lie flat on the floor - not on a couch or bed. Place your arms at right angles to your body. Turn your toes upward and point them as much as possible toward your face. At the command "Stretch" given silently or aloud by yourself, stretch hard to the heels and to the tips of your middle fingers. When the maximum sensation of stretching is reached, give yourself the command "Relax". Lie quietly on the floor for a moment. Imagine that you are sinking through the floor, through the basement, through the earth. The ability to free the body from tension is a valuable asset to any speaker.

3. Let your head fall forward on your chest, allowing it to pull itself down by its own weight, rather than by effort. Rotate it, as if it were "a cannon ball on a thread", dropping it over the right shoulder, back, left, shoulder and front. After several silent rollings, say sleepily as you rotate it, "easy-ah, lazy-ah", dropping the jaw on each ah sound.

4. Do the tongue and lip exercises listed on pages 82 and 85. When you have finished the above four exercises read aloud, taking pains to pronounce each separate word carefully and to phrase in such a way that the divisions of the thought are spaced properly.

This combined attack upon the sluggish or rigid mechanism, and the added practice in phrasing should clear up the patient's speech and give it the necessary crispness. The combinations of sounds which are most difficult for the individual should receive special attention. The list of words given below require careful articulation. Ask the student to try them alone and in sentences to test the ability to use the speech mechanism skillfully.

Drill for Careless Speakers.

1.

acts	recognizes	ignominious
respects	fifths	indefatigable
complexities	twentieths	incomprehensible
irrevocable	thousandths	idiosyncrasies
incomprehensible	sequestered	

2. The wind bloweth where it listeth.

3. Juliet: How art thou out of breath when thou hast breath
To say to me that thou art out of breath?
The excuse that thou dost make in this delay
Is longer than the tale thou dost excuse.
Is thy news good or bad? Answer to that:
Say either and I'll stay the circumstance.

Exercises for Careless Speakers.

1. These be times that try men's souls.
2. Self-activity is an essential in the cultivation of personality.
3. The fifth, sixth, and eighth rows may pass to the blackboard.
4. A unit may be divided into tenths, hundredths, and thousandths.
5. Springing up, the young man hung up his hat in the hall.
6. Running and jumping are healthful exercises.
7. The younger pupils were asked to assist the teachers.
8. He said he wouldn't give five cents a hundred for such trash.
9. The six bicyclists went out on the speedway to try for a new athletic record.
10. The champion golf player of modern times is Bobby Jones.
11. The boy acts in some respects as though he had lost his wits.
12. Our primitive ancestors celebrated their victories with elaborate feasts.

CHAPTER VI

INDIVIDUAL VOICE PROBLEMS

CHAPTER VI.

INDIVIDUAL VOICE PROBLEMS

I. Aphonia

Aphonia is a vocal disorder which makes impossible the production of a clear voiced sound. It may vary in seriousness from a slight huskiness to a total loss of voice.

The most frequent causes for this condition are chronic laryngitis, chronic catarrh, hysteria, chronic nervous or physical exhaustion or strained vocal bands. If an organic ailment causes the hoarseness consult a medical doctor. The chief cause of aphonia which is merely functional is faulty resonance. In order to have a good round carrying tone, one must have balanced resonance and all the resonators must function. Many people, through fatigue, inertia, or because their speech is influenced by another tongue, whose chief resonance is in the back of the throat, do not make sufficient use of the nasal and front resonance.

In order to remedy this condition practise the following exercises. Pay particular attention to vigor and precision of action of the abdominal muscles. The effort must be to remove all strain from the delicate

throat muscles and to place all the work of projecting the voice stream upon the sturdy muscles of the diaphragm and the abdomen.

1. In order to discover the point of control of the breath, place your hands on the front walls of your body, just below the belt. Cough slightly. You will feel an inward pull of the muscles.

2. Now, using this inward pull, give the letters in the name of your school, rather slowly, as if you were cheering at a game. Suppose the name of your school is "Garneau".

G (with an inward pull) - relax and expand in order to allow the bellows to fill with air.

A (with an inward pull) - relax and expand in order to allow the bellows to fill with air.

R (with an inward pull) - relax and expand in order to allow the bellows to fill with air.

N (with an inward pull) - relax and expand as before.

E (with an inward pull) - relax and expand.

A (with an inward pull) - relax and expand.

U (with an inward pull) - relax.

Be sure: (1) that your throat is relaxed; (2) that your chest and shoulders do not move.

3. Count from one to ten in the same way, but smoothly, without the jerk which produced the explosive utterance of the school yell.
one (with an inward pull) - expand; two (with a pull) - expand; etc.

4. Count from one to five as follows:

one (with a pull)- expand

one, two (with a pull) - expand

one, two, three (with a pull) - expand.

one, two, three, four (with a pull) - expand

one, two, three, four, five (with a single pull) - expand.

5. Using the method indicated above, practise the vowel sounds in the following words, one at a time, first as directed in (a) and then as directed in (b).

(a) Whisper each sound, holding it for a count of four, still holding your hand a little below the belt. Note this time the more gradual inward pull of the muscles.

(b) Repeat exercise (a) using voice instead of a whisper.

ale	ice	view
at	it	fur
arm	old	up
all	hot	now
meet	too	oil
met	took	

6. Practise the following exercise, beginning each time with a hum through slightly parted lips:

(a) MMMMMM-ah, MMMMMM-ei, MMMMMM-eeeee, MMMMMM-aw, MMMMMM-oo.

(b) Nah Nei Mee Maw Moo

(c) MMMah ei ee aw oo

(d) ahMMM eiMMMM eeMMM awMMM ooMMMM

(e) See-saw see-saw see-saw

Sing	ring	sing	ring	ah
Sing	ring	sing	ring	ei
Sing	ring	sing	ring	ee

7. Practise the exercises for relaxation given on pages 45-49, and 182-183 . Do the following exercises for resonance.

(a) Relax the throat. See page 49 .

(b) Hum: mmmm mmmm mmmm

(c) Practise the following exercise very rapidly, dropping the jaw each time on the final ah:

many-any many-any many-any many-any-ahhhhh.

(d) Hum: nnnn nnnn nnnn

(e) Hold the n for a count of three in each of the following words:

twenty	seventy	ninety
twenty	seventy	ninety
twenty	seventy	ninety

(f) Hum: ng ng ng ng ng ng ng ng ng ng ng ng

(There is no g in this sound).

(g) Dwell on the ng:

ding-dong	sing-song	Hong-Kong
ding-dong	sing-song	Hong-Kong

(h) Again dwell on the ng:

hung-ee
hung-ay
hung-oo
hung-oh
hung-ah

2. Nasality

Nasality, a nasal intonation, is an abnormal voice condition which many people have. This tonal defect is due to disturbances in the vocal vibrations which pass from the oral to the nasal cavity, changing non-nasal sounds into nasal sounds, the nose being open when it should be closed, or vice versa, being closed when it should be open.

During normal breathing the soft palate hangs loosely so that there is a communication between the nasal cavity and the mouth cavity. When the mouth is closed the soft palate, which is held somewhat tense, is swayed by the respiratory currents in a passive manner. For all sounds except m, n, ng, the soft palate moves upward, almost closing off the mouth cavity from the nasal cavity. If for any reason there is an interference with this normal function, the result is a nasal intonation.

Nasality may be due to cleft palate or to injuries following the removal of tonsils and adenoids or to tuberculosis, tonsilitis, syphilis or tumors. Nasality causes the voice to become flat and dull. Sometimes it causes a change in speech which makes enunciation indistinct.

No progress in the elimination of nasality can be made until the patient's musical sense has been developed to such a degree that he realizes the difference between nasal and non-nasal intonation. If there is no organic reason for the overabundance of nasal resonance the teacher should give a series of exercises to prevent blocking the passage to the oral cavity.

If the soft palate is lowered during vocalization, the following exercises may be found helpful:

1. Take a small mirror in your right hand and stand with your back to the light so that the light is reflected in the mirror. Shine this light into your open mouth. You will see a little red tag of flesh at the end of the roof of your mouth, hanging in front of your throat opening. This tag is called the uvula and it is used as an indicator to tell how the soft palate is acting. Take a short quick breath through your mouth trying to have the stream of air hit the roof of your mouth in front of the uvula. Do you notice that, as you breathe in, the uvula vanishes upward and the whole soft palate is raised? Do this several times until you have become familiar with the motions of the uvula.

2. Now begin to pant rhythmically, taking care that the air stream hits the middle of the roof of the mouth. Watch the action of the uvula throughout the exercise. Begin with a count of four and go up gradually to eight. Be very careful not to tire the muscles of the throat and palate while doing this exercise.

3. Now, without taking the quick breath through the mouth, try to make the uvula disappear and the soft palate rise. You will probably find this quite difficult at first, but you can conquer if you are patient. When you are able to raise and lower the soft palate at will, then practise doing it rhythmically to a count of four. Be very careful not to prolong the exercise to the point of fatigue.

4. While you are gaining control of your soft palate, you should also be training your hearing so that you can distinguish clearly between a good balanced tone and an unpleasant nasal one. While practising the vowel sounds try to hear the difference between the correct quality and your usual one. At the same time watch the action of the soft palate in the mirror and try to keep it high. It sometimes makes it easier to distinguish the right sound from the wrong one if

you can consciously do first the right one, then the wrong one, then the right one again and note not only the difference in sound but also the difference in the action of the soft palate.

5. The ear-training should be continued faithfully. You should try lists of separate words first, then put the words in sentences and practise saying the sentences aloud.

6. If you find great difficulty in relaxing the lower jaw sufficiently to open a wide passage into the mouth, the best relaxation exercise is to yawn. Practise this in your mirror, noting the action of the soft palate and the throat muscles. When you are able to yawn at will, then practise relaxing the throat without yawning.

3. High Pitch

There is nothing more distressing or embarrassing than a shrill, high-pitched woman's voice, or a falsetto voice in an adult male. An abnormally high pitch is a real vocal defect. If the pitch of one's voice is so high that it calls attention ot itself; if people are constantly thinking you younger than you are, then you should learn to lower the pitch a tone or two.

A falsetto voice suggests a lack of muscular control, besides a disturbed balance in the respiratory tract. Of all the vocal anomalies the persistent falsetto is the one most frequently observed.

When treating these cases a number of factors should be given consideration. The general physical condition of the patient should be improved. A tonic for the nervous system is indicated. The treatment for a high voice usually does not require an extensive period of time. The patient's musical sense must be stimulated and developed, and as soon as that is accomplished the rest is comparatively easy. If the pitch of one's voice is higher than E above middle C, one should plan to take it down a little. Use a piano if possible. Begin by training yourself so that you are conscious of exactly what tone you are

beginning on. Experiment on the piano to find the note. Then every day, practise intoning or chanting nursery rhymes, poems, and conversation on the tones and half-tones between middle C and E. When you have a certain tone well "in your ear", try beginning a sentence with that tone and then check yourself on the piano to see whether or not you were able to strike the right pitch. By patient practice every day, and a conscious effort to keep the pitch low, and the tone free, most cases of high pitch can be corrected.

CHAPTER VII

SUMMARY AND CONCLUSIONS

CHAPTER VII

SUMMARY AND CONCLUSIONS

Speech disorders are caused in various ways. Some may be traced to organic causes. Others have a psychological origin inherent in the environment of the home and the school, while others are due to incorrect habits of speech set up early in life. Speech defects are classified into various groups because treatment in each case is different.

When those afflicted with nervous speech defects feel happier in their social relationships, their mental anxiety and concern rapidly decrease, and they become more interested in what they have to express and less conscious of their handicap. Situations which destroy the confidence and self-reliance of the nervous child bring about feelings of inadequacy. This loss of power may cause emotional conflicts. Anything which disturbs the emotions is bound to disturb the voice and speech control. One of the first factors in the treatment of the nervous patient is that of relaxing. The speech teacher can suggest the idea of relaxation by her own manner; by creating little games, choral reading, and other quiet activities in addition to the relaxation exercises.

Children suffering from habit speech defects have nothing organically wrong with them requiring the treatment of the dentist or the physician. The basis of the disorder lies in faulty conditioning during the early formative years. The children may have imitated faulty speech patterns set down by their parents or they may have been allowed to talk "baby-talk" for years after it should have been discarded. Other children play with companions who have difficulty in enunciating clearly and tend to imitate them. Most children can overcome these habit speech defects with the assistance of a sympathetic speech teacher. Correction is based on the proper position of the lips and tongue in the articulation of mispronounced sounds and on a course of tongue gymnastics and breathing exercises. A great deal of repetition and drill is required if the incorrect habits have become well established. Many speech teachers suggest that the children use a hand mirror in the formation of the new sounds.

Children suffering from organic speech defects should be referred to the proper medical authority before the correction of speech is undertaken. Re-training after surgery (palate, tongue, larynx, or nose), should consist of substitution of new habit patterns for old, accompanied by appropriate breathing exercises.

It is sometimes difficult to understand how far-reaching and complex a speech disorder is, and to realize that many forms of treatment are required in order to effect a cure. In an attempt to correct any habit, it is easy for the child to slip back into the old behavior pattern. Faithful practice is of paramount importance. This re-education differs from the process of learning new material in that there is constant interference from old sets of habits.

BIBLIOGRAPHY

Fletcher, John M.	The Problem of Stuttering, New York, Longmans, 1928.
Greene, J.S. and Wells, E.J.	The Cause and Cure of Speech Disorders. New York, Macmillan Co. 1927.
Appelt, Alfred	Stuttering and its Permanent Cure. New York, Dutton, 1930.
Johnson, Wendel	Because I Stutter. New York, D. Appleton & Co. 1930.
Haefner, Ralph	The Educational Significance of Left-Handedness. New York Teachers' College, Columbia University, 1929.
Peppard	The Correction of Speech Defects. New York, Macmillan Co. 1925.
Ward, Ida C.	Defects of Speech - Their Nature and Their Cure. New York, Dutton, 1923.
Bender and Kleinfeld	Speech Correction Manual. Farrar & Rinehart - 232 Madison Ave., New York City, 1936.
Bennett, Rodney	Practical Speech Training for Schools. University of London Press, Ltd. 10 & 11, Warwick Lane, London, 1936.
Gifford, Mabel F.	Correcting Nervous Speech Disorders. New York, Prentice-Hall Inc. 1940.
Borden & Busse	Speech Correction. New York City, Crofts, 1925.
Swift, W.B.	Speech Defects in School Children. The Riverside Press, Cambridge, Massachusetts, 1918.

Avery, Dorsey & Sickels	First Principles of Speech Training. New York, D. Appleton & Co., 1928.
Barrows & Case	Speech Drills for Children in the Form of Play. Boston. The Expression Co.
Travis, Lee Edward	Speech Pathology. D. Appleton-Century Company, New York, 1931.
Orton, Samuel Torrey	Reading, Writing and Speech Problems in Children. W.W. Norton and Co. Inc., New York, 1937.
Head, Henry	Aphasia and Kindred Disorders of Speech, Volume I. Cambridge University Press, 1925
McAllister, Anne H.	Clinical Studies in Speech Therapy, University of London Press, Ltd., 1937.

B29748